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No. XI.—May, 1830.

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TO READERS AND CORRESPONDENTS.

Dr. WRIGHT'S Paper on the Use of the Warm Bath in Autumnal Fever, in our next.

The Reviews of the second volume of CARUS'S Gynæcology, of MACCULLOCH on Malaria, and of VELPEAU'S Traité de l'Art des Accouchemens, intended for the present number, were not prepared in time.

Several Bibliographical Notices intended for this number have been crowded out.

The Case, supposed to be Traumatic Tetanus, cured by quinine and opium, was evidently not an instance of that disease. The supposed tetanic symptoms appeared immediately after a cut on the arm, and had ceased by the fifth day, some time before the symptoms of traumatic tetanus make their appearance.

We have received the following publications:—

Des Hémorroïdes, ou Traité Analytique de toutes les affections Hemorroidales. Par A. J. de MONTÈGRE, M. D. P. 2d ed. publiée par sa neuve. Paris, 1830. Madelle. Delauney.

Memoire sur l'Angine Epidémique, ou Diphthérite. Par F. P. EMANGARD, D. M. P. Paris, 1829. Madelle. Delauney.

Considerations Générales sur l'Etat Actuel de la Médecine. Par M. R. CHARBONNIER, D. M. R. Paris, 1829. Madelle. Delauney.

De la Destruction Mécanique de la Pierre dans la Vessie ou Considerations Nouvelles sur la Lithotritie. Par J. J. A. RIGAL. Paris, 1829. Gabon.

Atlas Historique et Bibliographique de la Médecine, composé de tableaux sur l'Histoire de l'Anatomie, de la Physiologie, de l'Hygiene, de la Médecine, de la Chirurgie et de l'Obstetrique, &c. Par CASIMIR BROUSSAIS, D. M. P. Chirurgien Aide-Major du Gymnase Normal Militaire et Civile, &c. Paris, 1829. Madelle. Delauney.

Précis Analytique et Raisonné du Système du Docteur GALL sur les Facultés de l'Homme et les Fonctions du Cerveau, Vulgairement Cranoscopie. Rédigé sur les Indications Fournies. Par Dr. GALL, lui-même a l'auteur. Quatrieme edition, considerablement augmentée et améliorée. Paris, 1829. Rouen frères, 12mo.

Anthropogénèse ou Génération de l'Homme, avec des vues de Comparison sur les Productions des trois règnes de la Nature, et des Recherches sur la Conservation des espèces et des races, les ressemblances sexuelles et autres, les croisement des races, les causes de la fécondité, de la stirilité, de l'impuissance, et sur d'autres phénomènes des revivifications naturelles. Par J. B. DEMANGEON, Docteur en Philosophie et en Médecine, &c. Paris, 1829. Rouen frères, 8vo.

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A Biographical Memoir of Josiah Goodhue, M. D. late President of the Berkshire Medical Institution, delivered at the close of an introductory lecture on the 20th of November, 1829. By Stephen W. Williams, M. D. Professor of Medical Jurisprudence in the Berkshire Medical Institution. (From the author.)

Transactions of the Medical Society of the state of New York for the year 1830. With the Annual Address. By T. Romeyn Beck, M. D. President of the Society. Albany, 1830. (From the Society.)

An Enquiry into the Present System of Medical Education in the State of New York. Respectfully submitted to the consideration of the members of the Legislature. Albany, 1830.

Address to the Community on the Necessity of Legalizing the Study of Anatomy. By order of the Massachusetts Medical Society. Boston, 1829.

Charge addressed to the Graduates in Medicine at the commencement of the Medical Department of the Columbian College, D. C. March 10, 1830. By Thomas P. Jones, M. D. Professor of Chemistry, and Dean of the Medical Faculty. (From the author.)

A Manual of Midwifery; or a Summary of the Science and Practice of Obstetric Medicine. By Michael Ryan, M. D. Second edition. London. Thomas and George Underwood, 1829.

Journal des Progrès des Sciences et Institutions Médicales en Europe en Amerique, &c. Tome XVIII. and Vol. I. Second series. (In exchange.)

Archives Générales de Médecine; Journal publiée par une Société de Médecins. November, December. (In exchange.)

Bulletin des Sciences Médicales, rédigé par M. Defermon. August, September, October, November. (In exchange.)

La Clinique, Annales de Médecine Universelle. Par une Société de Médecins Français et Etrangeres. Tom. I. No. 35 to 43 inclusive, and Vol. II. No. 1 to 22 inclusive.

La Clinique, Annales de Médecine Universelle. Bulletin Bibliographique de Médecine et des Sciences Accessoires. No. 1. (In exchange.)

Nouvelle Bibliothèque Médicale, Journal de Médecine et de Chirurgie Pratiques. November, December, 1829. (In exchange.)

Journal Général de Médecine, de Chirurgie, et de Pharmacie Français et Etrangères; ou recuil Periodique des travaux de la Société de Médecine de Paris, rédigé par A. N. Gendrin. December, 1829, January, February, 1830. (In exchange.)

Revue Médicale, Français et Etrangère, et Journal de Clinique de l'Hôtel-Dieu, de la Charité, et des Grands Hôpitaux de Paris. January, February, March, April, May, November, December, 1829, and January, 1830. (In exchange.)

Journal de Chimie Médicale, de Pharmacie et de Toxicologie, rédigé par les membres de la Société de Chimie Médicale. July, December, 1829. (In exchange.)

Annales de la Médecine Physiologique. October, November, December, 1829, January, 1830. (In exchange.)

Mémorial des Hopitaux du Midi, et de la Clinique de Montpelier. Par le Prof. **Delpech.** January, February, March, April, May, June, July, August, September, October, November, 1829, and January, 1830. (In exchange.)

Repertoire Général d'Anatomie et de Physiologie Pathologiques et de Clinique Chirurgicale. Tome VII. 2d Trimestre de 1829.

Journal Universel des Sciences Médicales. December, 1829, January, 1830. (In exchange.)

London Medical and Surgical Journal, for October, November, December, 1829, and January, February, 1830. (In exchange.)

Edinburgh Medical and Surgical Journal, January, 1830. (In exchange.)

The Medico-Chirurgical Review, January, 1830. (In exchange.)

The London Medical Gazette, December, 1829, and January and February, 1830. (In exchange.)

The London Medical and Physical Journal, January, February. (In exchange.)

The Glasgow Medical Journal, edited by **William Mackenzie,** Lecturer on the Eye in the University of Glasgow. Nos. 5, 6, 7, and 8, for 1829. (In exchange.)

The Glasgow Medical Journal, conducted by **Andrew Buchanan,** M. D. and **William Wier,** M. D. February, 1830. (In exchange.)

The Midland Medical and Surgical Reporter, and Topographical and Statistical Journal, November, 1829, and February, 1830. (In exchange.)

The Western Journal of the Medical and Physical Sciences, January, 1830. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences, February, 1830. (In exchange.)

The North American Medical and Surgical Journal, April, 1830. (In exchange.)

The Boston Medical and Surgical Journal, Vol. III. Nos. 1 to 10.

For the gratification of our contributors we continue the references to the works, in which they will find notices to their communications; these references are, of course, restricted to the Journals received during the preceding three months.

Professor **Physick** will find his Case of Obstinate Cough from Elongation of the Uvula, noticed in the Revue Médicale for February, 1829.

Professor **Mott's** Case of Immobility of the Lower Jaw is republished in the London Medical and Surgical Journal for March, 1830.

Professor **Dewees's** Essay on Phlegmasia Dolens is noticed in the London Medical and Surgical Journal for March, 1830.

Professor **Bigelow's** Method of affording Respiration to Children in Reversed Presentations is noticed in the Mémorial des Hopitaux du Midi for January, 1830; the London Medical and Surgical Journal, November, 1829; and the London Medical and Physical Journal for February, 1830.

Professor Mussey's Experiments on Colouring Fœtal Bones with Madder are noticed in the Western Journal of the Medical and Physical Sciences for January, 1830.

Professor Coxe's Memoir on the Plant which furnishes the Officinal Jalap is noticed in the Journal of the College of Pharmacy, Vol. II. No. 1.; and in the North American Medical and Surgical Journal for April, 1830.

Professor Sewall's Communication on the Use of Turpentine in Hernia is noticed in the Journal des Progrès, Vol. XVIII.; and in the Mémorial des Hopitaux for January, 1830.

Professor Jackson's Cases of Cynanche Trachealis are noticed in the Medico-Chirurgical Review for January, 1830; and in the Western Journal of the Medical and Physical Sciences for January, 1830. His Case of Amnesia is republished in the Journal Universel for July, 1829.

Dr. Wright's Case of Aortal Aneurism is republished in the London Medical and Physical Journal for January, 1830, and his Case of Gangrene of the Lower Extremities is noticed in the Mémorial des Hopitaux for January, 1830.

Dr. Jackson's Case of Entropion is noticed in the Western Journal of the Medical and Physical Sciences for January last.

Dr. Daniell's Mode of treating Fractured Bones is noticed in the Mémorial des Hopitaux, and the Western Journal of the Medical and Physical Sciences for January, 1830.

Dr. Ware's Case of Sea-sickness is noticed in the Boston Journal for March last.

Dr. Huestis's Case of Cerebral Hernia is noticed in the Journal des Progrès, Tom. XVIII.

Dr. Simmons's Observations on Pyroligneous Acid are noticed in the Boston Medical and Surgical Journal for March last.

Dr. Callaghan's Account of the Small-pox Epidemic in Western Pennsylvania is noticed in the Western Journal of the Medical and Physical Sciences for January, 1830.

Dr. Fahnestock's Paper on the use of the Rhus Glabrum as a Remedy for Ptyalism, is noticed in the London Medical and Surgical Journal for March, 1830; and in the Western Journal of the Medical and Physical Sciences.

Dr. Howe's Case of Tracheotomy is noticed in the Revue Médicale for 1829.

Dr. Peirce's Case of Perforation of the Stomach is noticed in the Mémorial des Hopitaux for January, 1830; in the London Medical and Surgical Journal for November, 1829; and in the Journal des Progrès, Vol. XVIII.

Dr. Levert's Experiments on Metallic Ligatures are noticed in the Quarterly Journal of Science for January last.

Dr. Byrne's Observations on the use of Tartar Emetic in Chorea, are noticed in the Boston Medical and Surgical Journal for March last.

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Dr. Mighel's Case of Parturition complicated with Hydrops Ovarii, is noticed in the London Medical and Surgical Journal for March last.

Dr. Archer's Account of a Purulent Ophthalmia is noticed in the London Medical and Surgical Journal for March last.

Dr. Henderson's Case of Disease of the Bones cured by Arsenic, is noticed in the Journal des Progrès; and in the Journal Universel for January, 1830.

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "Carey & Lea, Philadelphia, for the Editor of the American Journal of the Medical Sciences." All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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7. Wells. On Rheumatism of the Heart.—Transactions of a Society for Improvement of Medical Knowledge, Vol. III.
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Elemente der Speciellen Anatomie in Verbindung mit der Speciellen Zergliederungskunst. Von Dr. M. J. Weber, &c. Zweiter theil Muskellehre, Bonn, 1828 - - - - - - - - - - - - - 203

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THE
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MEDICAL SCIENCES.

Art. I. *Observations on the Treatment of Delirium Tremens, and on the use of the Warm Bath in that Disease.* By Thomas H. Wright, M. D. Physician to the Baltimore Alms-house Infirmary.

The means commonly employed in the treatment of temulence and delirium from intemperance, were uniformly successful in the Baltimore Alms-house Infirmary, in a multitude of cases, for two years antecedent to the spring of the present year, 1829. Those means were emetics,—afterwards mild cathartics, (Epsom salts and magnesia,) in cases complicated with gastric and biliary derangements, or much febrile disorder; the evacuants followed promptly by anodynes, graduated in force or repetition, by the amount or persistence of nervous disturbance. In cases of the disorder already arrived at the stage of pervigilant delirium, miscalled "mania a potu," (as is correctly remarked by Dr. Coates,) if high vascular tumult attended, we here also employed an emetic, afterwards a nauseant, tartar solution—as a sedative, and concurrently with the effects of the latter, opiates, in doses designed to enforce sleep, made full, and renewed so frequently as to have the effect of each successive dose to come in aid of the impression of those preceding.

The opiate employed was Dover's powder, xij. grs.—or pure opium, one to two grains—or laudanum, forty drops—or black drop, x. gtt.; the interval of exhibition usually two hours, but regulated by the symptoms. Where sensorial and nervous irritation were greatly exalted, attended by deficient reaction, and signs of general atony, small, quick pulse—cold surface—livid complexion, &c. all evacuants and direct sedatives were omitted, and the patient entered at once upon the use of opiates. But here the doses were made smaller than

In those cases where the sum of vital power was less obviously deficient or expended, and the force of opiate was graduated as nearly as possible to the torpor or exhaustion of the functions of general life. Here too cordials of the vinous or spirituous class were allowed, concurrently with the employment of the opiates; and it was to this stage of temulence that spirits and stimulant drinks of all kinds was restricted. It was only in cases where the tumultuous excitation of the cerebral and nervous functions was found associated with cold congestive torpor of the distributive system, or with a low, irritative grade of excitement, tending to rapid collapse, that we deemed it either medically or morally right, to renew even the temperate use of the primary agents of the disorder.

In emetics, then, nauseants, anodynes, and cordials, regulated or combined in their exhibition by the character of cases falling under treatment, we had for a long time found efficient and unfailing means of controlling the various forms of temulence and delirium a potu. In no case of temulence advanced to the stage of delirious excitation, did we find emetics alone induce sufficient restraint of the cerebral and nervous derangements, to allow perfect tranquillity of mind, or sound sleep. Vomiting often took off much of the hallucination of the patient, and substituted some intelligence for previous total folly; but there was a constant tendency to relapse into mental error, and we found it better to confirm the advantage gained from the emetic, by calling in the aid of opiates afterwards, rather than await the return of the delirious paroxysms, and trust to subdue them by repeated emetics. The possible consequences of vomiting as a debilitating mean, suggests a caution in the repetition of emetics in temulent cases; and confidence in their permanent or final efficacy in those cases, is abated by the fact, that it is not uncommon to find some of the worst forms of delirium tremens, complicated with, and aggravating under, almost constant spontaneous vomiting.

In cases of temulence with strong vascular action, which vomiting did not sufficiently calm, or where in such cases emesis was deemed improper, nauseants were employed in the form of drinks, charged with medicines of that class, sometimes tartar, or ipecacuan, or zinc. This given for some hours, seemed often to prepare the nervous system for a favourable impression by opiates, and we had frequent reason to infer, that after this mode of previous treatment, we succeeded in inducing quiet and sleep, with smaller and fewer doses of opiates, than in cases where such preparation was omitted or deemed unsuitable.

The opiate course of treatment did not always succeed without difficulty, and sometimes not without an auxiliary of the sedative class. Cases of vigilant delirium which had resisted opiates singly, in full doses, repeated two, three, or four times, at intervals of one to two hours, were sometimes quieted by a liberal portion, eight to ten grains, of camphor, added to the next opiate dose. In a few instances, where opium alone, or in combination with camphor, had been used freely and diligently, without producing either quiet or sleep, the addition of musk to the opiate has seemed suddenly to suspend the general temulent irritation, and sound sleep has soon followed. We have tried various modes of exhibiting the opiate in temulence, hoping to find some rule for its use, combining the greatest efficiency with the smallest quantity of the agent. We have administered it in half-grain doses, repeated every thirty minutes, and in doses of one grain every hour—again beginning with half a grain, we have doubled the dose at every exhibition, in the ratio of compound increase, as far as we dare carry it on this rule. Each of those plans has succeeded; but my experience leads me decidedly to prefer half-grain doses of opium, or an equivalent in laudanum, repeated every half hour. The plan of doubling the dose at every exhibition, with the view of multiplying equally or more, the sum of quieting influence, often disappointed my expectations, and it was frequently necessary to arrest the experiment, and retrograde in the dose toward the first quantum.

The form of opiate employed in temulence seems sometimes to influence the result, as well as the amount. The pulv. Doveri answered well in habits giving an inflammatory character to the grade of excitement associated with temulence, but from its tendency to depress the tone of stomach, impair the appetite, and occasionally to vomit, as often as repeated, it sometimes became necessary to withdraw it before sufficient opiate impression had been made. Even where its depressing or disturbing effect upon the stomach did not interfere with its continuance, it seemed to conduce to sleep less than an equal quantum of good opium or laudanum. Pure, dry opium, (the older the better, if well kept,) was long esteemed by us our surest antidote. In this disorder, however, experience taught us, that in obstinate cases, varying the form of the agent was sometimes productive of benefit. In one case, where opium of the best quality had been exhibited to the amount of sixteen grains in twelve hours, without the smallest indication of submission to its influence, fifteen drops of black drop, at one dose, was followed by sleep in thirty minutes, which lasted, with a single interruption of a few moments, fourteen hours.

The web of the black spider has received commendation from many respectable sources, as a sedative agent, capable of calming with peculiar ease and certainty, morbid excitability of the cerebral and nervous systems. On the credit of those qualities it has been employed in the various forms of temulence, and not without a share of reputed success, sufficient to entitle it to consideration in that state of constitutional irritation. In the summer of 1827 we tried this article in many cases, and in full doses. To test its qualities, it was given, where the state of the patient admitted, uncombined with opiates. When thus used, its effects were generally partial or doubtful, and its powers inadequate to the production of tranquillity or sleep. In one case only, have I found this substance to exert great or decided sedative attributes. This was the case of an intelligent young man, (in private practice,) who, after consuming, by his own report, three quarts of brandy, in thirty-six hours, fell into a state of temulent excitation so excessive, that he was incapable of keeping a recumbent, or even a sitting posture, for more than a moment, but paced his chamber with a ceaseless step for two days and nights. He was not delirious, on the contrary his conversation was rational, though hurried and vehement. But he was so far under the influence of spectral hallucination, that if he closed his eyes for a moment, day or night, he was instantly visited by a host of phantoms of frightful aspect;* hence chiefly his aversion to lie down, or make any voluntary effort to sleep. This patient took opium, opium with camphor, and black drop, at short intervals, and in full doses, until the quantum of opiate, approached the utmost limit of probable safe administration, without even partial relief of constitutional irritation, or any apparent proneness to sleep. The temulent excitement kept unabated for twenty-four hours, the second night passed in constant vigilance, locomotion, and mental excitement, and it seemed probable that excitation so intense, protracted, and unremitting, must soon lapse into delirium or convulsions. At this time, the morning of the third day, (the second of my attendance,) he began the use of the fresh web in pills of five grains every hour. Its effect was prompt and unequivocal. He calmed, even sensibly to himself, with every dose, and watched with desire for the time of repeating the pills. The first effect of the web was to abate his restless movements about the room, he became disposed to sit down, and kept his chair, with short intervals of walking, for some hours. In the evening he consented to go to bed, got up once or twice, but returned to bed without difficulty, took an opiate at night, the first for eighteen hours, and slept continuously for eight hours. The cure was completed without difficulty, by repeating the web less frequently next day, quiet, suitable nourishment, and another opiate at night. The patient spoke emphatically, both the first and second day, of the soothing influence produced by the pills. He was not at the time informed of their composition.

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* Among the delusions practised by imagination on reason, the impulse to self-destruction was predominant; a catastrophe said to have been unhappily realized in less than a year after, while confined in one of the public institutions on account of derangement from drink.

On the general plan, and by the agents indicated in the preceding outline, we had for two years uniformly triumphed over the multitude of temulent affections, which in slight or severer forms, almost daily enter the wards of our institution. The result of a few cases of the disorder, admitted in the spring of the present year, 1829, showed us the error of counting on the infallibility of the means of past success, and diminished, perhaps unduly, our confidence in agents so frequently sufficient for our purpose. In June of this year we had three cases of delirium tremens, in which the power of sedatives and opiates, combined with our best judgment and administered with all our skill, was found unequal to cope with the disease, and we incurred defeats the more unpleasant because novel and unexpected. The first of those cases exhibited the disorder of the cerebral and nervous functions, associated with high tumult of the vascular system; countenance wild and flushed; pulse full; skin dry and hot; tongue foul; patient reported to have been two days and nights without sleep. The treatment was commenced by emesis, afterward nauseants, tartar in barley water, until febrile excitement was somewhat dissolved, then the opiate course in full doses. Dover's powder, twelve grains, forty minutes interval; solid opium in doses of two or three grains, one hour distant; and finally, strong laudanum, thirty drops in twenty minutes, were successively exhibited with punctuality, without any good effect. Per vigilance, agitative tremor and delirium increased, and the patient died in twenty-four hours after admission, exhausted by excessive unremitted mental excitation, and temulent struggles.

The second was a case of relapse, or rather of the disorder renewed with multiplied intensity. The patient had been admitted with temulence in its forming stage, cerebro-nervous irritation below the grade of delirium, but tending to that consummation. He was put alone, and treated, (after a mild emetic,) by opiates of medium doses. He tranquillized readily, slept great part of the first night, was rational next morning, and eat breakfast with good appetite. In the evening he was removed from the cell to the general infirmary, where he slept well, and was so much himself on the day after as to engage voluntarily and actively all day in assisting the nurse of the infirmary to wait on the sick. On the second night of his stay in the infirmary, he awoke late at night, with a cry of terror, expressed vehement dread of some vague danger, and became so agitated, (temulent,) that it was necessary to transfer him again to solitary confinement. His case soon reached the acmé of sensorial disorder. Acute phantomic delirium became established, attended by extra vigilance and a low grade of febrile irritation; pulse small and quick, countenance dark, tongue red and dry, surface cold. The unfortunate result of the case just preceding, had created suspicion that the fatal event might be resolved either into the loss of time devoted to the reduction of excitement, by the emetic and nauseants, or in part to that cause and to the too tame use of opiates afterwards. To give the opiate full scope, it was resorted to in the present instance, at once and freely. A bolus of opium and camphor, (2 grs. and 4 grs.) was given every hour, until the quantum of opiate taken had reached eighteen grains: its exhibition was then arrested to await its effects. After an interval of three hours, and neither quiet nor sleep appeared at all likely to ensue from what had been taken, four grains, full weight, of opium was given at one dose. The effect of this experiment of doubling the dose after so much previous opiate exhibition, was looked for with anxiety. An hour after its administration the patient was more excited and restless than before, and soon went into convulsions which never ceased till death. The third case was in the low ataxic form of muttering stolidity, comprehending nothing and expressing nothing distinctly, constantly catching at spectres, and turning up the bed clothes and bed after some visionary object of search. It was treated by cordials and opiates, with stimulants, wine whey, laudanum with spt. ammon; stimulant anodyne enemata, laudanum and tinct. fœtid. in warm water. The case ended fatally, by slow exhaustion, on the third day.* Period of temulence before admission, not known.

Dissection, in the first case, revealed universal injection of the vascular series of the encephalon, both in the membranes and medullary body; excess of serosity over the surface of the brain and between the tunics; no sanguineous extravasation. In the stomach, fine red injection around both orifices, florid patches in the mucous tissue, no lesions elsewhere. In the second case, the state of the encephalon and stomach exhibited something of engorgement and phlogosis, but the marks of congestion in the brain, and of irritation in the stomach, were sensibly less than in the first subject. The small intestine was much inflated in this case, and in one part, the jejunum, for eight inches, the coats of the bowel were loaded by extravasated blood, (ecchymosis.) The quantity of blood infiltrated into the cellular tissue of the coats of the bowel, chiefly on the side of the tube next the wall of the belly, was very considerable, and had the appearance of interstitial hæmorrhage by contusion. There was no appearance of bruise on the outside of the abdomen, and it was not known whether the patient had been hurt in any way by a fall, blow, or other accident. The third subject betrayed no other pathological phenomena, than a very loaded state of the sinuses of the brain and of the veins of the cerebellum. The medullary substance of the latter was of very distinct pink colour throughout.

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* This man was for the most part unable to swallow, but after holding substances for some time in his mouth, they would suddenly drop out, while h appeared making efforts to convey them into the stomach; as if the nerves o the tongue and pharynx were paralyzed by congestion or effusion at thei root.

Of numerous cases of temulence, averaging sixty per annum, and a large proportion in its gravest forms, admitted into the house within the two years, ending 1st of July, 1829, those just reported are the only fatal instances; or rather what is meant is, that they are the only instances which have finally resisted treatment. Some other victims of intemperance died in the house within the period mentioned, but these, five or six in number, were cases brought to the house in a state of absolute exhaustion or fatal stupefaction, and have died in a few hours after admission, one or two of them on the road to the institution. One case occurred lately, (in August,) in which the circumstances and the manner of death differed from any former example. A young woman was brought at night to the institution in that state of temulence with terror, called by the nurses and old inmates of the house, the horrors. She was put to bed, a cordial anodyne exhibited, and its repetition at stated intervals charged on the matron of the cells, if the patient did not sleep. In the morning, early, the matron reported to the senior student, that the young woman had slept great part of the night, had waked in the morning calm and cheerful, and after taking breakfast with appetite, had again fallen asleep. In an hour afterwards she came to report, that having gone into the cell to observe if the patient was sleeping, she found her lying in the posture, and with the appearance of sleep, but lifeless. Dissection furnished no satisfactory explanation of the cause of death. The cavities, tissues, &c. were all in their common state, except at one part. The cellular tissue enveloping the left kidney was infiltrated with blood, and extensively stained by red serosity. The senior and associate students engaged in the examination of this woman, report a sensible effluvium of whiskey from the stomach, but a still more distinct and even strong odour of the same liquor from the brain of the subject.

The senior student of the house treated the three cases reported as ending fatally, with particular personal superintendence. They were treated according to general advice given by myself, and with the advantage of knowledge, zeal, and good judgment on the part of the gentleman in charge of them, aided by former observation of the judicious management of similar cases in the Pennsylvania Hospital and Alms-house. After the unfortunate issue of those three cases, it became a question of great interest to this gentleman, (whose station in the house threw most of such cases into his hands,) what means were left us or what could be done to avert similar defeats in future. When consulted in one of the cases reported, which had resisted two and three-grain doses of good opium repeated to three or four exhibitions, about the propriety of pushing the opiate to such absolute force of dose as must decide the alternation of "sleep or death" in favour of the patient, I had expressed strong doubts of the safety of great multiplication or progressive increase of dose in those states of exalted and protracted temulent excitation. I conceived it highly probable that in such cases extra large doses of opiate, might, as a narcotic, suddenly extinguish the remains of sensorial energy, or else, as a stimulant, urge the existing sum of constitutional irritation to a grade of uncontrollable excess, speedily involving convulsions or fatal collapse. The general phenomena of poisoning by opium and some other narcotics, are often very analogous to the symptoms of per acute delirium tremens from drink;* and it has been long matter of apprehension with me, that our plan of treating high temulence was liable to the serious risk of supplying the train of morbid actions with an impulse fitted to carry them on to direct augmentation. In one of the cases reported above, where eighteen grains of opium, two grains in the hour, had been taken, after suspension of the opiate three hours without the least apparent controul of the symptoms, between four and five grains were given at one dose. The delirium increased, convulsions ensued, and continued until death.

The state of hyper-excitation in temulence, seems to require agents fitted to soothe without disabling, capable of calming irritation at small expense of power. Evacuants are apt to exhaust too much, stimulants to excite unduly; with both vigour is lost while tumult remains. On these general principles, our practice has for some time been regulated more strictly than formerly. We have endeavoured to pursue a course adapted to circumstances, combining caution with effect, and interposing in a manner neither too absolute nor too tame. Evacuants, emetics and mild cathartics, if indicated, or injections, if for any reason preferable, were employed as hitherto in cases where the patient was young and stout, the disorder in the first stage, the vascular function active, and gastro-biliary derangements indicated by foul tongue, want of appetite, nausea, &c. If with the evidences of the tonic form of excitement, gastric, or gastro-cephalic irritation predominated in the characters of great sensibility about the stomach, pain of the head, over acute hearing, intolerance of light, flushed face, &c. cupping the epigastrium, the temples, fore and hind head, or all, were to precede, and, in exalted grades of those local derangements, to supersede direct medicinal evacuants. If delirium, per vigilance, or high temulence survived the preparatory treatment described, as they too often do, the warm bath was to be the next resort. The temperature of this agent was regulated by the state of the patient, as a general rule about 90°, its duration to be determined by its effects, always contemplating manifest calming influence before the experiment was arrested. The opiate course succeeded immediately to the bath. Dover's powder or pure opium, in the proportion of one grain to the dose, (or an equivalent in laudanum,) was given every two hours, if necessity continued, to the extent of three, or at most four doses. If this trial with the opiate did not succeed in inducing quiet or sleep, the warm bath was repeated, the patient kept in until sensibly, but not greatly relaxed, and on his coming out of the bath, the opiate again resorted to, but in a retrograde ratio. Instead of renewing now the amount of opiate first employed, the dose was reduced at once to one-half, even more than half if the patient was much languid from the bath, and repeated at intervals of an hour, until sleep was procured.

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* Which often kills, no doubt, purely from narcotism.

In cases of the atonic form of temulence with delirium, where the disorder had been longer formed, the vigour of the subject constitutionally small, or subdued by habitual intemperance, sensorial and nervous irritation abounding, with a small, quick, undeveloped pulse, skin cold or covered with mucous perspiration, in short, in cases combining the asthenic and irritative forms of the disease, all evacuations by vomiting or purging was pretermitted. Here moderately stimulating injections were employed until stools were procured, cups applied to the head or epigastrium, or both, if gastric and encephalic super-irritation were present, the warm bath, and after its use, opiates, in force of dose and frequency of exhibition, regulated by the seeming indications for a prompt or gradual impression. In every modification of the class of cases under consideration, the atonic or asthenic forms of temulent delirium, the doses of opiate were comparatively small, never exceeding the ratio of one grain to the hour, and reduced from that amount if tranquillity or sleep was not consummated by the first three or four doses. Always before commencing the use of the diminished doses of the opiate, the warm bath was repeated, and it generally, in fact almost uniformly, happened that after repetition of the bath, the reduced doses, (half proportions,) displayed more composing and greater hypnotic influence than the previous full doses had accomplished; often succeeding perfectly in the same number of doses as had failed altogether on the first trial with double the quantity of opiate.

This result became so manifest and so often repeated, that the students of the institution fell into the habit of exhibiting the opiate in small doses even at first, and going on with them continuously, until the symptoms were subdued. Where the disorder proved obstinate, and the bad symptoms unusually protracted, instead of resorting to large doses of opiate, injections sometimes with tinct. fœtid. or laudanum, cupping,* or that mean repeated if used before, and renewed warm bathing, were called in as auxiliaries to the opiate course. Cases have occurred in the house in which high delirious temulence has kept on for two and three days and nights, and yielded happily at last to the course indicated. An instance of this sort occurred a few days since, (a foreigner of education and respectable connexions, fallen from his rank by habits of intemperance,) where the disorder wore a character of peculiar exaltation and inveteracy. The man did not sleep nor even lie down for three days and two nights. Incessantly and vehemently declaiming to and of the creatures of his own morbid imagination, he stood shaking under an impulse irresistible and unremitting, which while it rendered both mind and body the sport of its power, seemed to impart superhuman ability to endure the unnatural privation of rest or relaxation. The warm bath frequently repeated, with laudanum renewed continually in doses varying from twenty and thirty down to ten drops, succeeded at last in calming an amount and persistence of tumult, which for a long time appeared likely to intermit only by total expenditure of the vital attributes by which it was sustained. The whole quantity of laudanum exhibited in this case was two hundred drops; two or three ten-grain doses of Dover's powder were given on the night of admission, in anticipation of the laudanum course. In a milder form, the disorder, (temulence with hallucination,) sometimes maintains its partial dominion over the patient for a long period. A man of fat full habit was lately discharged the Alms-house Infirmary, in whom temulent agitation with tendency to delirium continued three weeks. Every day during this period, his limbs were tremulous, his countenance anxious and terror stricken, pulse small and quick, stomach irritable. During all the time whenever he fell asleep, day or night, he was shortly awaked by some indefinable feeling of agitation and alarm, and found himself covered with profuse perspiration. He did not at any time fall into actual delirium, but his confusion of mind was often very great for a few minutes. He was treated by the warm bath daily, and the vegetable bitters with ten-drop doses of laudanum at intervals generally of six hours. He recovered perfectly at last. Throughout the treatment he was constantly solicitous that the indulgence of the warm bath should be continued to him, and spoke strongly of its comforting influence.

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* Cupping the temples, in high delirium, was followed by cold applications to the head. We have bled from the arm but in two cases, one of stupor, the other remittent convulsions, both with dilated pupil and full pulse. In each the pulse quailed promptly under the flow of blood. Both recovered unde subsequent treatment.

Our general design, (as was mentioned,) in the exhibition of the opiate, has been, to procure its tranquillizing influence, by renewing the impression of small doses at short intervals, and thus to multiply opiate power, until we acquire dominion over temulence, without incurring the hazard of a constitutional shock, either by the narcotic or super-excitant force of one or more large doses. In the greater number of cases, the dose of opiate we employ is ten drops of good laudanum,* at intervals of forty to sixty minutes, and whatever be the result, the dose is rarely raised to twenty drops. Beyond the latter dose we almost never go, and not at any time for more than two or three doses, the larger portions of opiate generally given in the first trials with that mean, and consisting commonly of pulv. Doveri in eight or ten-grain doses. In cases, where, from the long period of vigilance before coming to the institution, the necessity for sleep has become peculiarly urgent, after preparation by injections, cupping if indicated, and the warm bath, we treat with twenty drops of laudanum in succession at intervals of forty to sixty minutes. After such cases have been brought to acknowledge the influence of the opiate, to the degree of partial sleep or manifest drowsiness, we often reduce the force of that agent, as the symptoms of the disorder yield, and adhering to short intervals of repetition, exhibit the laudanum in portions of ten, or even five drops. Often, very often, do we find reviving vigilance, or the wavering tendency to sleep, converted into sound repose, by the constantly renewed impression of even those very small doses.

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* Laudanum is the most convenient form of opium in these cases, from the greater facility and certainty of its exhibition to delirious patients.

There may appear to be good reason, from the force of the disorder, and the active treatment by opiates, generally pursued and often successful, to suspect the plan of management briefly sketched above, as inefficiently tame, and therefore of pernicious tendency. I can only reply, seriously, that I should deem it criminal to misrepresent in such a matter, and that whatever be the speculative probability, the practice described has in reality been eminently successful. I have now before me a report from the senior student of the institution, of which the following is an extract:—

> "Of thirty-nine cases of delirium tremens and temulentia, admitted into the house from the third of July, 1829, till the thirtieth of December of the same year, twenty-five were explicitly delirious. Three of the subjects of it died. One of those entered the institution convulsed, and continued thus till death, which occurred in a few hours. Another was labouring at the time of entrance under apoplectic stupor, and eventuated similarly in a like period. The third was in an extreme state of debility, and died the ensuing morning. In this number the last very singular case admitted is not embraced, but it forms a very striking example. The event is yet unaccomplished."*

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* The case here mentioned by the reporter as "singular," was briefly as follows. The man when admitted was in total stupor, said to be the effect of hard drinking for some days. Next morning he was highly temulent, shaking in all his limbs. His countenance now expressed consciousness, and when spoken to he moved his lips and tongue, but could not articulate. In the course of the day, after great effort, he sometimes pronounced monosyllables. On the third day, countenance calm and natural, speech still limited to one word; farther effort to speak was either inaudible, or produced interrupted unmeaning murmur. On pressing with my finger on the ligament which covers the exit of the spinal chord through the foramen magnum, the right side of the face became convulsed, and retracted forcibly toward the ear. This spasm and retraction was uniformly repeated when pressure in the neck was renewed, and continued the same for thirty-six hours. The left side of the face pricked freely with a pin, acknowledged no sensation; the right was readily stimulated to contraction by the same mean. The man lost all the marks of temulence after a few days, and gradually recovered the power of speaking short sentences. But even now, ten days after complete general convalescence, any effort to converse beyond a few simple terms, produces apparent chaos of ideas and confusion of language, causing him to utter abruptly unmeaning words, made up of incongruous letters.

"All of them were treated by the same means now always adopted by us, and we believe with particular success. Of the merely temulent cases, none proved fatal."

"Antecedent to the 3d of July, and previous to the system at present established in this institution, out of four cases of delirium tremens successively admitted, three had proved fatal. (These were the cases described in the former part of this memoir.) The plan then was opium, camphor, and musk combined, or some form of opiate exhibited in large doses, and at greater intervals than we now observe. One of them, (of the three cases mentioned,) expired in convulsions, probably induced by the opium, of which three grain doses, and one dose of four grains, had been administered to the extent of twelve grains. Emetics were succeeded by death in a second of those cases."

"In addition to the above thirty-nine cases, were several of a milder form of the disorder, which did not require very strict medical attention."

"R. J. THOMPSON, *Senior Student.*"

If it were asked on what I conceived to rest the main efficacy of the treatment here reported as having almost uniformly overruled temulent delirium in its most grave forms, I should reply, first, the warm bath; secondly, liberal cupping on the abdomen and head, the latter especially. The very temperate opiate course which has followed those means and consummated the cure, I regard as owing its efficiency chiefly to the constitutional preparation, accomplished by the primary and concurrent employment of the former agents. Unaided by those auxiliaries, I conceive the small doses of opiate would often expose to defeat, in a contest with so formidable a disease.

I do not know whether the free and repeated employment of the warm bath, be a new practice in the treatment of delirium tremens. I am not apprised that it has ever been used in that affection, but my information on the modes of treatment in that disorder, derived from reading, is very limited. It has so happened that I have seen none of the essays published on the subject abroad or at home. Some of the latter* are highly esteemed by the profession, as happily illustrating the pathology of the disorder, and indicating judicious and rational principles of treatment. There is no design in those remarks to attach importance to the question, whether the agent recommended in this memoir be now for the first time used, either partially or freely, as a composing mean in temulent irritation. It is far more interest-

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Pressure in the neck no longer causes spasm in the face, and sensation is equal on both sides. During illness, and for some days after, the bowels and bladder were evacuated unconsciously. Treatment—injections, warm bathing, repeated cupping on the head, and small opiates.

[*] Essays on "Mania à Potu," or "Delirium Tremens," by Drs. Klapp, Coates, and others.

ing that it prove beneficial, than to establish for it any pretension to novelty.

There are some extra medicinal considerations connected with the management of delirium tremens, of sufficient consequence, in hospital practice especially, to merit particular attention. As the subjects of this disorder commonly require to be kept alone, in hospitals generally secluded in cells, it is highly important that their place of confinement be as quiet as possible, and capable of being made light or dark at pleasure.[*] But it is even still more important that the receptacles of this class of patients be dry, and susceptible of being ventilated in summer, and warmed comfortably in the damps and cold of autumn and winter. Nothing, not even light and noise, so strongly counteracts the good tendency of the most judicious medical regimen, as a close, damp, or chilling atmosphere, about the subject of delirium tremens. The patient cannot tranquillize—there can be no balance of the sensorial and natural functions, while the nervous and capillary tissues, the exhalent system of the lungs and the skin, are paralyzed by submersion in an atmosphere at once impure, and damp, and cold. Salutary reaction toward the surfaces, the offices of elaboration, and all the constitutional means of equipoise, are utterly hindered under such evils of place and circumstances. A dry air, kept comfortably warm, yet admitting due ventilation, clean, dry, and sufficient personal dress, (if the patient is up,) a dry bed, and sufficient covering, these are almost indispensable to the safety of patients far advanced into constitutional temulent irritation.

Next to comfort of place, personal management is a matter of importance. The hallucination, the wandering impulse and ceaseless motivity of high temulence, suggest an apparent necessity for personal restraint, as well as solitary confinement. Even as a mean of composure, as an auxiliary to the sedative and quieting course of medicines, personal hindrance from motion and effort seem at first view to be necessary, and has often been resorted to in those cases. Hence the tranquillizing chair, the leg chain and the mufflers for the hands, the straight waistcoat for the arms and trunk, and the bed straps to enforce recumbency. These and other means have been employed to prevent the patient from beating the bounds of his cell with restless step and agitated limbs. But every such device is commonly vain. The temulent agitation is no less vehement, because confined within the close embrace of the canvass shirt; muscular action then becomes concentrated, not extinguished. The temporary madman, unconscious of the motive or design of such constraint, feels the incumbrance most sensibly, and from the instinct to be free, strains yet more and more, and is not likely to relax his efforts, until fatal exhaustion quenches the power to struggle. Of all the means of personal restraint I have seen employed in motive and agitative temulence, my own observation would lead me to retain only the leg chain, confining the patient to a small space near his bed, leaving the trunk, arms, and hands free, and removing out of his reach everything he could injure. or with which he could hurt himself. I have seen subjects of the disorder, standing up, or lying upon their beds, under the compression of the straight jacket, in whom the tumult of mind had constantly augmented after it was put on, as if to compensate for the bodily controul thereby produced. These cases long resisted all the agents of quiet employed while the constraint was kept up, and in most instances it became necessary to throw the jacket off before either mind or body could be calmed to rest. An instanee occurred lately, in the case of a robust old man, apparently about sixty, whose delirium had been unusually protracted, and of a character to render the temporary use of the jacket necessary.* We found him standing up, vigilant and excited, without the smallest sign of submission to the opiates which in moderate doses had been diligently administered: he had not lain down since the evening before, and nothing but force would have put him or kept him in bed. He complained much both of the inconvenience and the indignity of the personal controul, and on being asked by the senior student whether he would go quietly to bed if all restraint were removed, he consented to do so. He was set at liberty, lay down, and was reported by the keeper of the cells to have fallen asleep in a few minutes. He was rational next day, and continued well. From all that I have seen of the disorder, our experience appears to warrant the conclusion, that in the warm bath, properly used, we have a most salutary substitute for forcible restraint; a substitute which at the same time that it controuls powerfully, yet soothes while it subdues.

We have made the course of diet for the temulent as simple as possible. Coffee, or chocolate, or milk and bread, for breakfast; rice, gruel, or light vegetable soup for dinner; tea or milk with bread for supper, constitute the common regimen. It has been mentioned before, that laudanum is our general form of opiate in the disorder. This we administer in wine whey, the latter made with wine of good quality, and besides using the whey as a vehicle for administering the opiate, the patients are allowed the same, (except contraindicated by the grade of excitement,) as a drink. Beyond this kind and amount of cordial exhibition we never indulge. Spirituous drink of all kind is entirely excluded from our plan of treatment. Formerly we allowed in some cases of the disorder, small quantities of spirits, diluted and sweetened, (toddy,) in connexion with the opiate course, but for a long time we have omitted that mean altogether. No patient, to the best of my knowledge and belief, has suffered from the privation, nor do I think the allowance of spirituous drink in this class of cases, either necessary or judicious; at least such indulgence is by no means generally essential or conducive to the cure.

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* He had been unavoidably placed in a cell with another patient for whose security from annoyance or hurt the constraint was imposed.

When first entering on hospital practice, where the temulent form of disorder was like to be frequently encountered, it became a question with me whether I might safely withhold spirituous drink from the subjects of that affection, betraying a predisposition to the disease in its mature stage, namely, prepared to lapse into agitative delirium. The experiment seemed both morally and medically worth making, if it could be done with safety. It was tried and succeeded. With very rare exceptions, liquor, spirits, wine, &c. was kept wholly out of use, and the temulent subject treated by rest, (sometimes confinement to bed for a day or two,) with sufficient allowance of light nutritious food, and generally a small anodyne at night. I have seen no reason to consider this course unsafe, or calculated to give temulent irritation occasion or opportunity of serious aggravation. Very many who come into the wards with bodies agitated and minds somewhat distempered by temulence, on being put to bed, made warm and comfortable, supplied with suitable and sufficient nourishment, and, if required, a medicinal cordial or anodyne, have tranquillized readily, and escaped the further dominion or the full establishment of the disorder. On the whole, I am sincerely convinced that the administration of spirituous drink is not generally necessary or beneficial in temulence, either as preventive or remedial mean.

On the subject of the medicinal employment of spirituous liquors in general hospital practice, our experience sustains a conclusion of some interest, especially as it relates to the moral and economical aspect of hospital regimen. Our annual summary of cases treated, for twelve months, ending 1st of May, 1828, gives 1873 patients. A similar estimate for the year ending 1st of May, 1829, furnishes 2167 cases. By a report of the agent of supplies for the Alms-house, the whole quantity of liquors ordered for the institution during those two years, was as follows:—

"For the year ending 1st of May, 1828, 50 gallons of wine, 3 barrels of whiskey, 8 gallons of Jamaica spirits, 1 gallon of gin, 1 dozen bottles of porter.

For the year ending 1st of May, 1829, 48 gallons of wine, 2 barrels of whiskey, 7 gallons of gin, 6 gallons of spirits, 2 gallons of French brandy.

"T. R. HAND, *Agent.*"

The "whiskey" mentioned in the report of the agent, was used for various purposes, in the house, chiefly stimulant fomentations, liniments, &c. and for making common tinctures. None of it was administered to patients, except as made into tinctures. There remains then, of wine, spirits, brandy, &c. a total of one hundred and twenty-eight gallons used in two years, with an aggregate of patients in the time amounting to four thousand and forty. In a professional view, the first question which ought to associate itself with such an exhibit, is whether the subjects and diseases of hospital practice will safely admit so restricted employment of stimulant means. If my judgment and experience have not both greatly deceived me, I can conscientiously answer in the affirmative. My real conviction is, that what error we committed in the use of those agents was on the side of indulgence rather than restriction—that we gave too much instead of too little. The total mortality in the institution, for the two years indicated, was 322, number of cases 4040, ratio of deaths about twelve and a half per cent. A result it is conceived not less favourable than has obtained in any similar establishment abroad or at home. The ratio of mortality here given, will be greatly reduced in a medical contemplation, by the fact that the aggregate of deaths reported comprehends one hundred and two cases of pneumotuberculitis, or chronic phthisis pulmonalis.

Baltimore, December, 1829.

ART. II. *Extraordinary Case of Pregnancy [illegible] which the Fœtus was Discharged through the Abdominal Parietes.* By JOSEPH A. TOY, M. D. of Virginia.

EARLY on the morning of the 1st of November, 1828, I was desired to visit Mrs. S. W. in the adjoining county, (Warwick,) who was represented as being extremely ill. Dr. FRENCH of this town had also been called on, and we visited her together. On our arrival we found Dr. CORBIN, (of Warwick,) the attending physician, present. Dr. C. has since very politely furnished me with the previous history of the case, from which I learn that the doctor saw her incidentally on the 29th of October, at which time he bled her freely.

She then had a midwife with her, and was supposed to be in labour. The doctor was called again on the evening of the 30th, at which time he represents her as labouring under all the symptoms which characterize labour. On the following day the pains increased in violence and duration, and upon examination the membranes were found to be tense and advancing slowly. In the evening "the pains were of long duration, and appeared natural. On examination found the os uteri considerably dilated and labour appeared fast progressing; put myself in an attitude to render the assistance customary, and in a few moments the sac, whose progress I had so anxiously watched, burst, and a rapid and bold current of water followed. From the length of time it was passing, and the deluged state of the bed and room, I think I may with confidence state that the quantity must have been two or three gallons." We were called on the following morning. We found the lady suffering extremely. She described the pain as being "a dull, heavy aching" across the abdomen. The abdomen was swelled, tense, and hot—pulse small and quick—great restlessness and anxiety—os tincæ soft and somewhat dilated—the external parts were swollen and inflamed. Emollient fomentations were applied, and it was determined to use the secale cornutum to promote the expulsion of the fœtus; half a drachm was given in divided doses, one-third every twenty minutes, conjoining a sudorific anodyne with the first dose. This produced no apparent effect upon the uterus, and we continued to use it until two drachms were administered. We could not perceive, however, that the slightest effect was produced by it, and we judged it prudent to stop its use. In the meantime our patient had become almost entirely easy, and the swelling, tenseness, and heat of the abdomen were greatly relieved by the fomentations. Aperient and febrifuge medicines were prescribed for her, with an anodyne at night to procure rest. When I saw her the next morning, she was very nearly as on the preceding day, except that on examination the os tincæ was found more contracted—the tension and heat of the abdomen were almost entirely relieved. We had not been able to perceive any thing like a fœtus by examination per vaginam, but a tumour which we supposed to be the head of the fœtus was distinctly perceptible two inches above, and to the right side of the umbilicus.

The patient was quite composed, and in better spirits than on the day before. She informed me that she had not "looked" until December. It was thought unnecessary for us to continue our attendance, and we accordingly left the case to the care of the attending physician. The doctor states, in the communication before alluded to, that she was "extremely ill" several times within the succeeding ten days. On the 10th, her face, feet, and legs were swollen, and there was considerable fever present. On the 12th there was an offensive discharge from the vagina, "resembling matter from an ulcer." On the 18th all unpleasant symptoms abated except swelling—discharge very considerable and offensive. The doctor ceased visiting her about the last of November, at which time the discharge was very considerable.

I heard nothing of this case from the time I saw [illegible] lady until January, 1829, when her husband called on me, and desired that I would prescribe for her. He stated that her face, feet and legs were much swelled. That she was extremely feeble and her general health bad. The discharge per vaginam still continued, and within the last three weeks several small bones had been discharged. These I afterwards ascertained to be an entire forearm and hand, and the metacarpal bones and fingers of the opposite arm. He said that it had been several weeks since any physician had seen her, and that she was very melancholy, and considered her case a hopeless one. I prescribed for her Peruvian bark and carb. ferri, with stimulating pediluvia, and frictions and flannel rollers to the legs. Mild aperients to keep bowels soluble. As this lady lived a considerable distance from here, I lost sight of the case entirely until May following. Her husband now called on me again to know whether any thing could be done for her. He stated that the swelling was entirely removed from the feet and legs, and that her health had improved under the tonic course. She had been to Norfolk about six weeks previous, and consulted Dr. P. BARRAUD.

I was desired to visit her in conjunction with Dr. BANKS of this town. We saw her together on the 7th of May. She was sitting up, but not able to walk further than across the room at once. She informed us that six or seven weeks previous, a small discoloured spot had appeared about one inch above the umbilicus on the right side, and that she suffered considerable pain about this part. There was now an aperture at this spot, through which a fine probe could be introduced. The discharge per vaginam had *ceased altogether* about the last of January, but there was now a small discharge from the abdominal opening. No bones had been discharged since those before mentioned. We stated to her our conviction that there was but one means of relief for her, and that was an operation for the removal of the bones. That as there had been no discharge per vaginam for more than three months there was not the slightest probability of their being discharged from that passage, and as nature had already done s much for her, there was a strong probability of her entire recovery after the operation. She would not, however, consent to have them removed. We prescribed for her an infusion of quassia, gentian, columbo, and rhubarb, and as there was considerable tension and heat about the abdomen an emollient poultice was directed. We agreed to visit her alternately once a week. When I next saw her, on the 21st, her strength had increased somewhat and she suffered less. She informed me that there was an exacerbation of fever every night, at which time the uneasiness over the abdomen was increased. The opening continued to increase in size for the succeeding four or five weeks, during which time we saw her several times. On the 6th of July a message came to us that she was "much worse," and on the following day Dr. Banks and myself visited her together. We found the aperture closed by granulations, and a considerable degree of tension and heat about the part. She suffered us to make a tolerably free incision, by which about half an ounce of sanious bloody matter was discharged.

We ascertained that the aperture was closed near the surface only, and that below the integuments it was increased in size. Tonic infusions and emollient poultices constituted the treatment, keeping the aperture freely open with lunar caustic. When we again saw her on the 14th, we could distinctly perceive, upon introducing the probe, that it came in contact with bone. From this time we could feel the bone very distinctly, whenever the probe was introduced. We had repeatedly pressed upon her the importance of resorting to the operation in time, and we now urged her to consent to it at once, as she was evidently on the decline. There was a hectic glow upon her cheek, an irregular exacerbation of fever every day, and great uneasiness over the whole of the abdomen. Her strength had declined considerably within the preceding three weeks, and her stomach had lost its tone. She desired, however, that she might be allowed a short time yet to reflect upon it before she determined to submit to the operation. She mentioned as a reason why she hesitated, that every individual whom her husband or herself had consulted, was of opinion that it would probably destroy her.

At a subsequent visit we endeavoured to impress upon her mind the absolute necessity of having the bones removed before it was too late. She was now much emaciated, the hectic symptoms had increased considerably, and she appeared to be sinking rapidly. Seeing now that unless the irritating cause was removed she must very speedily sink, she at length consented to submit to an operation, though her husband was opposed to it even on the day it was performed, and as she has since informed me, every friend whom she consulted endeavoured to dissuade her from it. She displayed much firmness.

We proceeded to remove the bones on the 12th of August, her husband, an old woman, Dr. Banks, and myself being the only persons present. The aperture had increased in size considerably, being about two lines in diameter at the surface. I made the first incision about four inches long, in the direction of the linea alba, commencing two inches above the umbilicus, and one inch to the right of it. This was continued through the parietes of the abdomen and uterus into the cavity of the latter, the incision in the uterus being more than two inches in length. This incision I crossed in its centre, by another at right angles with it of equal length and depth. The top of the cranium was found presenting, the bones appearing to be firmly united.

I attempted to introduce a pair of small obstetrical forceps, with the view of removing the head at once. This, however, was found to be impracticable without using more force than I judged prudent, as the uterus was firmly and rigidly contracted around it. I used therefore, a pair of strong forceps from a pocket case, and with these succeeded in detaching and removing the bones of the cranium separately and successively; all the other bones of the fœtus remaining. We found that adhesive inflammation had united the uterus to the parietes of the abdomen for some distance around the opening, the diameter of the circle of adhesion was more than an inch. The operation occupied about fifteen minutes. After repeatedly washing the part, the edges of the wound were brought together, and dressed with adhesive plaster. Stitches were found unnecessary. Over this, pledgets of lint and a compress of old linen were applied, and a roller passed round the abdomen. Before the wound was dressed the lady expressed herself entirely relieved from the uneasiness which the presence of the bones had so long occasioned. She complained of some pain about the uterus.

On our visit the next day, she was in all respects doing well. The pain which she complained of the preceding day had continued for some hours, but she was now entirely easy, and expressed in strong terms the relief which she had felt since the removal of the bones.

In six weeks she was entirely well, and had visited several of her neighbours. The opening which had existed previous to the operation was not entirely filled up, but the incisions united by the first intention.

I saw this lady in December last—she was then in fine health and very fleshy. The catamenial discharge had returned and was now regular.

This case could not have been one of extra-uterine conception, for the early history of the case together with the discharge of the soft parts and bones per vaginam, prove incontestibly that it was uterine, even if the operation had not demonstrated the fact. Neither can it be believed that there had been rupture of the uterus at any period during the progress of this case, for when the bones were removed they were firmly enclosed in the uterus, and there was no other opening but the passage externally, for which we think there is little difficulty in accounting. The pressure of the bones against the walls of the uterus, produced inflammation and suppuration, which, passing by continuity of surface to the parietes of the abdomen occasioned the aperture. The inflammation thus excited also produced adhesion between the uterus and abdominal parietes, which union must still exist—indeed, when I last examined her, the parietes of the abdomen were considerably drawn in by this attachment.

Believing this case to be of considerable interest to the medical world, and besides, one of rare occurrence,* I have been induced to submit it for publication.

Hampton, Elizabeth City County, Va. Feb. 1830.

Art. III. *Examination of the Nature and Effects of Malaria, and on the Pathology and Treatment of Malarial Fevers.* By Edwin D. Faust, M. D. of Columbia, S. C.

THE subject to which we would call the attention of our readers, has been long patiently and ingeniously examined; but the results of such examinations have not satisfied the philosophical minds of modern physicians. The importance of the subject is every where known, and has excited, in all enlightened countries, a spirit of inquiry which will finally result in successful discovery, but which has not yet procured us that kind of knowledge, on which alone, practical conclusions can be safely founded. The causes which have retarded th progress of discovery in this most interesting department of medical science, are probably numerous, and it would be a difficult task to detect them all. In some cases, the views of observers have been too limited, as regards the kinds of knowledge employed in their researches, or the number and value of the facts from which they have formed their opinions. Others have been misled by attaching themselves to some favourite hypothesis, neglecting all facts not easily reconcileable with their doctrine, and magnifying, in their own conceits, all those from which they have expected support.

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* The only case I have met with at all similar to the foregoing, is one recorded by Dr. Müller, and noticed in the number of the American Journal of the Medical Sciences, for August, 1829. Owing to some accident, this number of the Journal did not reach me until some weeks after the removal of the bones in this case. In Dr. M.'s case the fœtus was expelled at the umbilicus by the natural efforts of the uterus.

In a paper, the object of which is to ascertain truth as it is, and not to establish a merely ingenious hypothesis, we shall attempt to release ourselves from the influence of our own prejudices, to examine candidly some of the doctrines concerning the nature and influence of malaria, to show in what points they are deficient, and to explain those views which appear to us most consistent with the phenomena which have been observed, and most likely to lead to sound practical conclusions. It will be seen that the elementary views on which our doctrine is based are not new; but that those elements have been sometimes examined in a new spirit, and have been placed in new relations with one another. From this, we hope to offer definite ideas on the present subject, and to lay the foundation for fixed principles on collateral questions.

It seems to be pretty well determined, that the production of that volatile poison of which we are treating, depends, always, upon the co-existence of warmth, moisture, and decaying vegetable matter. In those cases in which remittent and intermittent fevers occur in districts not plainly showing the sources of malaria, we may always conclude that there is a sub-soil which prevents the percolation of water, or some other source of an analogous nature.* This source has been known for many centuries; and, as Dr. Caldwell remarks, is evidently referred to by Homer.† In Lucretius, also, we have the influence of an atmosphere poisoned by malaria, forcibly set forth.‡ It might be contended that these cases referred to a cause different from that of remittent and intermittent fever, because, in both instances, domestic animals are said to have suffered, and in the former they are made to precede man in the catastrophe. We are yet, however, to learn, whether lyssa and other epidemic and contagious diseases among domestic animals, do not result from the influence of malaria, acting upon a peculiar and temporary state of the system of these animals. A remarkable case in point is detailed by the eminent Larrey, in his observations on a violent inflammatory fever which occurred among the cows and oxen, during the campaign of Italy, affecting also the health of the inhabitants, and which dissection showed to be an intense gastro-enteritis. Speaking of the causes of this epidemic, he says, "Les renseignemens que je recueillie auprès des habitans, les recherches aux quelles je me livrai, m'assurèrent que l'épizootie reconnaissait, pour principales causes, la mauvaise qualité des fourages, l'état marécageux des pâturages, la chaleur excessive et prolongée qui avait succédé tout-a-coup à un printemps pluvieux et orageux. Les pluies d'orage avaient considérablement grossi les torrens, les rivières, et en avaient causé le débordement: une partie de ces eaux, après avoir nui aux récoltes, était restée en stagnation dans les lieux bas et enfoncés, ce qui avait formé autant de marécages."*

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* First American Edition of Gregory's Theory and Practice, vol. 1, p. 120.

† Illiad, Book I. line 43.

‡ De Rer. Nat. Liber VI. 1217; or the Lucrèce de Pongerville, Tom. 2, p. 410; for a different version, see Good's Study of Medicine, 1825, Vol. 2, p. 49.

To the moderns, however, we owe our present views on the subject, and Lancisi appears to be the original writer.† For the establishment of our views, it will be necessary to bring before our readers, some of the most important characters of malaria, as determined by the best authorities, and to show that these characters are inconsistent with some of the doctrines which have been or may be advanced.

The evidence offered by Dr. Macculloch, to show that malari adheres to solids, is, we think, by no means conclusive; but we allo the fact, and shall show that even this, if granted, is not fatal to ou views.‡

It obeys the motions of the atmosphere, and is generally, if not a ways, combined with water, in the form of mist.§

The rays of the [illegible] disperse it.‖

Fire and smoke prevent its effects; not as Macculloch suggests pages 292 and 293, but as we shall hereafter explain, and as h seems, from page 285, to have faintly conceived.

It causes fever. The varieties in the kinds of fever produced b the malaria of different situations, do not show any difference in

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[*] Memoires de Chirurgie Militaire, tom. 1, p. 165.

[†] De noxiis paludum effluviis, 1717, as quoted by Gregory, vol. 1, p. 1 first American edition.

[‡] Malaria: an Essay on the Production and Propagation of this Poison, & London, 1827, p. 267 and 268.

[§] Macculloch, p. 259 and [illegible]1.

[‖] Macculloch, p. 276, or Caldwell's Translation of Alibert, 1807, p. 172.

malaria; at least they do not demonstrate it; for the relative proportions of moisture and gas, the climate, season, constitution and mode of life of the patients, together with other circumstances, will, perhaps, explain all these phenomena.

The poison has been supposed to be intercepted by a gauze veil; but of this there is no satisfactory evidence.[*]

It follows currents of air, occupying the lower regions of the atmosphere, and not rising to the height of a few hundred feet, unless raised by a strong breeze, or by the sun.[†]

It is supposed to be intercepted by groves in which the foliage is thick.[‡] Houses are thought to have the same effect; that side of a street, nearest a marsh, being usually considered most sickly.[§]

It acts most powerfully before the rising and after the setting of the sun; the presence of which disperses or decomposes it, or both.[‖]

Malaria may be considered as an uncombined gas,[¶] as the vapour of a volatile solid or liquid, as animalcular,[**] or as a gas combined with water.

Its characters differ widely from those of uncombined gases. It is known to every chemist, that whenever any gas is allowed to escape into the air, however great may be its specific gravity, it speedily and uniformly diffuses itself through the mass of air, not occupying any particular region.[††] This is the case, even with gases which do not combine; as is seen in mixing carbonic acid and hydrogen gases; the mixture remaining uniform, notwithstanding the great difference in the specific gravities of the two substances.[‡‡] The proportion of carbonic acid in the atmosphere of mountains, is the same as in that of vallies.[§§] It will follow then, that, as gases, in an uncombined state, mingle, in opposition to the laws of gravity, while malaria occupies the lower strata of the atmosphere, and is with difficulty diffused, unless by strong winds, malaria cannot be consistently viewed as an uncombined gas.

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[*] Macculloch, p. 299.

[†] Caldwell's Translation of Alibert on Malignant Intermittents, p. 175, or Macculloch, p. 265.

[‡] Macculloch, p. 247, 252.

[§] Baglivi, Opera Omnia, p. 157, 158; as quoted in Bancroft's Treatise on Yellow Fever, p. 165.

[‖] Caldwell's Alibert, p. 172, 173, or Macculloch, p. 276.

[¶] Volta's idea, see Macculloch, p. 421.

[**] American Quarterly Review, for Dec. 1828, p. 393.

[††] Thomson's Chemistry, 1818, Vol. III. p. 34; Webster's Manual of Chemistry, 1826, p. 165.

[‡‡] Thomson, Vol. III. p. 33; carbonic acid is 22 times heavier than hydrogen.

[§§] Turner's Chemistry, first Amer. edit. 1826, p. 145.

The vapours of very volatile solids and liquids, as camphor, musk, ether, &c. follow the same law of uniform diffusion as gases, and have therefore no stronger claim to be considered as constituting malaria, than the latter class of substances.

The doctrine of the animalcular nature of malaria, which is of ancient origin, and has met with support from some more modern writers, does not appear to us to present stronger evidences in its favour than the former hypotheses. It merits, however, a particular consideration. The localities from which malaria emanates, are such as may be expected to generate animalculæ; but the same situations are the invariable and inexhaustible sources of carburetted hydrogen, carbonic acid, and other gases. The argument of co-existence, therefore, as applied to the defence of this doctrine, goes for nothing; being equally applicable to other agents, of well known deleterious character. But allowing animalculæ to be produced in marshy situations, it must be remembered that they are generated in water, or in contact with moist soil, or vegetable matter, to which, on account of their extreme minuteness, they must be closely attached by this moisture. Under these circumstances, it will be mechanically impossible for the atmosphere to remove them from the places in which they were formed; and they must, of course, die and decay, without ever mingling with the air. This very obvious and simple objection is fatal to the hypothesis, as it stands at present, and the supporters of the doctrine will be driven to the necessity of endowing the animalculæ with wings; a position which could not be reasonably assumed.

Malaria remains near the ground, and obeys the lower currents of air; but solids so minute and light as to float in a calm atmosphere will not remain near the surface, but will mingle with the mass of air, in the same way as uncombined gases with one another, from the simple facts that no portion of the atmosphere ever retains its position for two minutes together, and that these solids obey the slightest possible impulse. Any current of air sufficient to detach animalculæ from even a dry soil, must disperse them so as to prevent their deleterious influence, while a very weak impulse, such as propagates malaria, must fail to raise them from the moist matter to which they adhere. The radiated heat of a fire, smoke, and probably other chemical agents, neutralize the effects of malaria; in what way we shall consider hereafter. But it is well known that the lower classes of animals resist, in a surprising degree, the want of pure air, and the presence of deleterious matter, such as the irrespirable gases, even in a concentrated state; and still more in the very diluted form here supposed, in which these agents must be harmless to insects.

Malaria seems to be interrupted by a row of houses, so that fever is more common on the side of a street nearest a marsh, than on the opposite side. But if malaria consist of air holding in suspension animalculæ, it is evident that the poison would have such free access to the more remote side, through the spaces between the houses, and by the cross streets, as well as by other accidental and various avenues as to infect completely both sides, and prevent the occurrence of any perceptible difference. We shall show hereafter, that the same objection does not apply to our views.

Malaria is dispersed, if not decomposed, by the sun; but we cannot suppose that animalculæ are in any way affected by a temperature high enough to support all animal life, yet not even so high as that of the places in which they were generated. The moist soil in which animalculæ were produced, will always be more heated by the rays of the sun, than the atmosphere, or minute bodies floating in the open space to which the wind has free access.

All these facts seem to us inconsistent with the hypothesis now under consideration; and we shall violate the principles of philosophy if we reject opinions founded on indisputable facts, and supported by the strongest probabilities, for others founded on a supposed existence of animals not proved to exist, not appreciated by our senses, and not proved, even granting their existence, to possess the properties attributed to them. The most malignant fever may be excited by a few hours exposure to a very concentrated malaria. How then can it be conceived, that the atmosphere should be so loaded with animalculæ, as to act violently and rapidly on the system, producing the most intense inflammations and dangerous congestions of the internal organs, and yet, the animals so fatally abundant remain invisible, intangible, tasteless, and inodorous: it is impossible. If the animalculæ be so extremely numerous as in these cases they must be, that they will necessarily be visibly accumulated on the skin, and on surrounding substances; the mucous membrane of the lungs and nose will detain them in such quantity as to excite cough, if not complete bronchitis. Nothing of this kind occurs. The matter of malaria works its fatal ravages invisible as air. The living fibre shrinks from its touch, and the blood seeks refuge, as it were, in the vital organs; but no external trace is left after its action, or perceived during its application, except the slight contraction of the cutaneous fibres, and a diminished activity of the capillary circulation; a condition precisely opposite to the effects of all known insects. There is no example in nature, of the production of fever from the poison of any insect externally applied, without previous acute inflammation of the skin. In all these cases the external application of the poison results in a direct external irritation, of which the gastro-enteritis, (fever,) is a consequence. The whole series of phenomena, in the case of malaria, is opposite. *If there be any cutaneous irritation, it is slight and evanescent, and it is only when the vital actions of the surface languish, that we find the development of constitutional disease.*[*]

Are we told that the animalculæ are swallowed with the saliva? It is a frail argument, because the fact is not proved; and because, if the saliva could be so saturated with animalculæ as to become poisonous, then would the poison itself be visible, and change the properties of the fluid: this has not been seen. In another point of view, the assertion is of no value. In passing through the towns of Italy, the traveller is especially cautioned to sleep as little as possible, in the malarial districts, as sleep is found to be favourable to the reception of fever in such situations. The reader will remember, unfortunately for the animalcular doctrine, that during sleep the secretion of saliva is diminished,[†] and less is swallowed than in the waking state. On this ground sleep might be considered prudent in persons exposed to malaria; but the contrary is the case. We must not, too, overlook the fact, that during sleep the mouth is usually closed, and the air passes to the lungs without coming in contact with the saliva, and therefore without contaminating it. The well established fact above alluded to, is then inconsistent with the hypothesis under consideration. Let us see whether it does not lend support to the views which we have adopted. It is known to every physiologist, that during sleep, the cutaneous circulation is languid,[‡] while there is an accumulation of blood in the internal organs; indeed, that the latter state is one of the first steps to the ordinary occurrence of sleep.[§] This determination predisposes, so long as it continues, to internal inflammation and congestion; and this predisposition is the more easily converted into actual disease, because the actions of the skin are, in this languid state, more readily suspended by the malaria, than in the more active condition of wakefulness.* We have thus a satisfactory rationale of the greater liability to fever in the one state than in the other.

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[*] The influence of malaria in depressing the vitality of the surface, is illustrated by Dr. Daniell, of Savannah, in his work on fever; but this ingenious author has erred in supposing the digestive surface to partake of the cutaneous atony. Those who have heard the learned and valuable lectures of Dr. Geddings of Charleston, will recognise the above doctrine.

[†] Broussais's Physiology, 1[illegible], p. 156.

[‡] Op. Cit. p. 157.

[§] Op. Cit. p. 151, 154.

Nor does the prevalence of insects always correspond with that of malaria. The abundance of all kinds of insects in Columbia, for some months past, has been remarkable, especially of the smaller species, near the marshes surrounding the town. The mosquitoes did not appear as early as usual, but have been abundant for some time past. Yet among this host of insects none of the poisonous animalculæ have appeared, and the good health of not only Columbia, but also of the greater portion of the state† is now, (November 1st,) and has been for some time almost unparalleled.

Such is the substance of the objections against the doctrines above discussed, which now occur to us. We believe all these doctrines to be inconsistent with well known facts, and we have endeavoured to point out some of those inconsistencies.

We shall now go on to develope our own opinions concerning the nature of malaria; to show that it consists of a chemical combination of carburetted hydrogen and water, which chemists have failed to detect, on account of the imperfections of their tests.

In marshes, and in pools of standing water resting upon mixtures of mud and dead vegetable matter, large quantities of light carburetted hydrogen are formed and disengaged during the warm months. By stirring the mud at the bottom of the stagnant water, bubbles of gas escape, and may be received in inverted jars, floating on the surface, and furnished with funnels of oiled paper, for the more easy reception of the gas.‡ When thus obtained, it is mixed with about $\frac{1}{20}$ of carbonic acid, and about the same quantity of nitrogen.§ This mixture does not materially affect its properties, and the carbonic acid may be removed by washing it with lime water.

Light carburetted hydrogen is tasteless, colourless, and inodorous.‖ It supports neither life nor combustion.¶ When mixed with common air, in proper proportion, it forms an explosive mixture; but if the gas exceed the one-sixth, or be less than the one-twelfth of the whole, the compound ceases to be explosive. When mixed with rather more than one volume of oxygen, it is explosive; but not so if the oxygen amount to 2.25 volumes.* When mixed with chlorine, both gases being dry, no action occurs, but if the gases contain water, muriatic acid is formed, and either carbonic acid or carbonic oxide, according to the proportions, is set free.† Its specific gravity is 8, hydrogen being 1.‡ It is soluble in sixty times its volume of water,§ and this property has an important relation to the subject before us, as indicating that it is combined with the water of fogs, and it is even probable that in this rarefied form, in which a given quantity of water exposes so large a surface and is so minutely divided, a larger quantity of gas will be detained, and the union will be more strict. Its combination with the aqueous vapour will explain the fact that it does not rapidly disperse itself in the atmosphere, as is the case with uncombined gases, but rather occupies the lower regions of the atmosphere, until the sun raises it along with the vapour into the upper region.

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* Op. Cit. p. 157.

† A few of the upper districts excepted.

‡ Thomson's System, Vol. I. p. 209.

§ Turner's Chemistry, 1828, p. 191.

‖ Thomson's System, Vol. I. p. 210.

¶ Turner's Chemistry, p. 191.

According to Dr. Beddoes, the blood and muscles of animals killed by confinement in this gas have a red colour, less distinct than that produced by oxygen, but very different from the dark colour exhibited by animals killed by drowning or carbonic acid.‖ There is much obscurity in the reddening of blood by this gas, and there seems to be no error, as Dr. Beddoes speaks very positively of the facts, and mentions some decisive experiments.

The following statement of Sir H. Davy, shows the powerful depressing influence of the gas, when received into the lungs. It will be observed in this case, as in those quoted from Dr. Beddoes, that the gas was obtained from steam and charcoal; that it possessed, when newly made, a strong odour, and that being necessarily impure, it affords only an approximation to the effects of the gas obtained from stagnant water.

"For this purpose, I introduced into a silk bag four quarts of gas, nearly pure, which was carefully produced from the decomposition of water by charcoal, an hour before, and which had a very strong and disagreeable smell.

"My friend, Mr. James Tobin, Jr. being present, after a forced exhaustion of my lungs, the nose being accurately closed, I made three inspirations and expirations of the hydro-carbonate. The first inspiration produced a sort of numbness and loss of feeling in the chest and about the pectoral muscles. After the second inspiration, I lost all power of perceiving external things, and had no distinct sensation, except a terrible oppression on the chest. During the third expiration this feeling disappeared; I seemed sinking into annihilation, and had just power enough to drop the mouth-piece from my unclosed lips. A short interval must have passed, during which I respired common air, before the objects about me were distinguishable. On recollecting myself, I faintly articulated, 'I do not think I shall die.' Putting my finger on the wrist, I found my pulse thread-like, and beating with excessive quickness.

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* Thomson, Vol. I. p. 210.

† Turner, p. 192.

‡ Macneven's Brande, 1826, p. 140.

§ Turner, p. 191.

‖ Beddoes on Air; the various parts are so badly arranged that we cannot specify pages.

"In less than a minute I was able to walk, and the painful oppression on the chest directed me to the open air.

"After making a few steps, which carried me to the garden, my head became giddy, my knees trembled, and I had just sufficient voluntary power to throw myself on the grass. Here the painful feeling of the chest increased with such violence as to threaten suffocation. At this moment I asked for some nitrous oxide. Mr. Dwyer brought me a mixture of oxygen and nitrous oxide, I breathed this for a minute, and believed myself relieved. In five minutes the painful feelings began gradually to diminish. In an hour they had nearly disappeared, and I felt only excessive weakness, and a slight swimming of the head. My voice was very feeble and indistinct. This was at two o'clock in the afternoon.

"I afterwards walked slowly for about half an hour, with Mr. Tobin, Jr. and on my return was so much stronger and better as to believe that the effects of the gas had disappeared, though my pulse was 120 and very feeble. I continued without pain for near three-quarters of an hour, when the giddiness returned* with such violence as to oblige me to lie on the bed; it was accompanied with nausea, loss of memory, and deficient sensation. In about an hour and a half, the giddiness went off, and was succeeded by an excruciating pain in the forehead and between the eyes, with transient pains in the chest and extremities.

"Towards night these affections gradually diminished. At ten no disagreeable feeling except weakness remained. I slept sound, and awoke in the morning very feeble and very hungry. No recurrence of the symptoms took place, and I had nearly recovered my strength by the evening."†

The following cases are mentioned, in other words, by Dr. Beddoes: Mr. Greenwood had used the carburetted hydrogen for about two weeks, in doses of from two pints to five quarts daily, with little effect. The gas was diluted, of course. On the 5th of October he breathed four quarts, diluted; it is not stated to what amount. Ten minutes after this, there was a sense of numbness in the forehead, with heaviness of the eyelids, followed by extreme weakness, and a sense of vacuity in the abdomen. He made an effort to walk a few feet, but was unable to do so. He soon lost all consciousness, for some time, the length of which he could not ascertain. During this time, there was an involuntary discharge of urine; after which, there was paleness of the face, blue lips, fainting, with extreme weakness for some hours.

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* A singular tendency to an intermittent type.

† Sir H. Davy's Researches, Chemical and Philosophical; chiefly concerning nitrous oxide or dephlogisticated nitrous air, and its respiration. London, 1800, p. 468.

A person standing in a current of air while about a cubic foot of the gas was set free, felt, as it passed him, very sensible depression, with vertigo. Another person was thrown into a state of complete syncope, by standing near a tube from which the gas issued for a short time.

The gas prepared from steam and charcoal, is observed to become less active when kept for a few days.* As it is not liable to spontaneous decomposition, this loss of activity is not very easily explained. We cannot imagine that the intelligent practitioners who have prescribed it, would neglect to free it carefully from carbonic acid. As above prepared, it will usually contain some pure hydrogen and carbonic oxide, varying in proportion according to the degree of heat,† yet, as these gases suffer no change on standing, their presence does not explain the phenomenon. Is it not possible that the gas, when newly made, contains a greater quantity of water, than after standfor some time, and that this water enables it to act more powerfully on the system? The subject is at least worth a serious examination. In the process for preparing the gas, it is brought in contact with the heated vapour of water; of course it will unite, under these circumstances, with a considerable quantity of water, a part of which it will deposite on standing. An analogous deposition is often observed by chemists, in saturated solutions, which have remained perfectly still for some time. In such cases, crystals subside without the influence of temperature.‡ The subject is obscure, but we are not aware of any other principle on which the fact can be explained.

From the physiological effects of carburetted hydrogen, as above stated, it cannot fail to be observed that it has a powerful influence in determining congestions of the vital organs, with prostration of the muscular powers, and that it leaves, even when applied for but a moment, effects of a striking and by no means evanescent character. Perhaps, indeed, its power of producing internal accumulation of blood will afford the only possible explanation of its effect of reddening the muscles of animals destroyed by it, for it is evident that the gas itself cannot decarbonize the blood. This, however, is not satisfactory to ourselves, for the venous blood is redder than in cases of death from carbonic acid; and it would thus seem, that the gas interrupts those changes in the parenchymatous structure of the organs by which the arterial fluid is carbonized. The subject, we again confess, is involved in much mystery.

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* Beddoes on Air. † Thomson's System, Vol. I. p. 210.

‡ Thus, on mixing solutions of phosphate of soda and sulphate of magnesia, no immediate effect follows; but after some hours the phosphate of magnesia is deposited in crystals. (Thomson's System, Vol. II. p. 377.)

The physiological physician will recognise, in the fulness of the head and heaviness of the eyes, the lividity of the lips and syncope, the vertigo, rapid, thread-like pulse, dizziness, nausea, head-ache, tremor, confusion of mind, pains of the extremities, and excessive muscular debility, many of the most essential symptoms of those gastro-enterites, more or less acute, simple or complicated, which the universal observation of mankind has determined to result from the impression of malaria. To the ontologist, to whom the supposed idiopathic fevers are known as an assemblage of symptoms only, the resemblance may not be sufficiently perfect. For differences in the degree and order of symptoms, we would refer him to the minute detail of any two cases of severe fever, and more particularly to Broussais's case of acute and fatal but apyrectic gastro-enteritis.* To the true pathologist, however, who sees diseases not in the pages of the nosologists only, but in the several organs of the body, the similarity between the effects of carburetted hydrogen and malaria, will be sufficiently evident, and he will not doubt that an atmosphere contaminated by the presence of this gas, can produce effects identical with those observed in fevers.

It has been asserted, that if an atmosphere contain carburetted hydrogen gas, the chemistry of the present day is adequate to its detection. This is undoubtedly true, with respect to mixtures containing a certain proportion of the gas in question; but let us see how it will apply to the examination of malaria. The quantity of carburetted hydrogen contained in any atmosphere, and the proportion requisite for the production of the usual effects, may be fairly considered as very small, probably less than the thousandth part of the whole mass. If, however, it be allowed to constitute so large a proportion as the five-hundredth, it will not, even then, be detected, by any means yet applied to the examination of the atmosphere of marshes, and therefore all the chemical experiments hitherto instituted on the subject, may be considered as having no weight in the present discussion. No axiom in mathematics can be more self-evident, than that carburetted hydrogen must exist in the atmosphere of places in which it is constantly generated in large quantities; yet the chemists have not detected it. Hence, we see, that whether the gas in question, be malaria, or not, we must look for its detection to a more refined chemistry than has ever been applied to the examination of this subject. Will the chemist attempt to convert the gas into water and carbonic acid, by the electric spark? The properties of the gas will instruct him, that in the diluted form of malaria, the change cannot be effected, by even the most persevering application of this agent. And if he could succeed in effecting the change, the quantity of water and carbonic acid developed would be so very minute, that they would not be appreciable by our tests, unless we should operate on quantities of air larger than our largest receivers would contain, and far greater than any yet examined.

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* Histoire des Phlegmasies Chroniques, Tome II. p. 479.

Will it be attempted to decompose it by chlorine? It will be remembered, that the gases, if dry, do not even when concentrated, act on one another. But suppose them to be moist; it is extremely probable, though not verified by actual experiment, that when so largely diluted, no action will occur, and no muriatic acid be liberated. Indeed this probability amounts almost to certainty, when we reflect that even in a concentrated state the action is not very energetic. Allow, however, that in this diluted state, the decomposition should occur, the small portion of muriatic acid formed, being diffused through a large quantity of air, and mixed with chlorine, our tests will not be able to establish its presence, because some uncombined chlorine will necessarily be present, and the tests of muriatic acid are the same as those of chlorine. And even were it possible to establish the presence of a little muriatic acid, no accurate and cautious chemist would feel satisfied that this did not result from the decomposition of aqueous vapour. Nor will it be possible to remove the oxygen and nitrogen of the air under examination, so as to leave the matter of malaria alone; for if we absorb the oxygen by phosphorus, still the nitrogen must remain and mask the poison. When we reflect on all these difficulties, very nearly if not entirely insuperable by the most effectual application of the improved modes of analysis invented since any careful experiments have been instituted on this question, the impartial chemist must confess, that the evidence afforded by his science cannot as yet be entitled to much consideration; nor must the present writer be considered among those most ready to make this concession. After all, we do not despair of the assistance of chemistry in this important and interesting department of science, and we are inclined to believe, that the quantity of poisonous matter sometimes present in the atmosphere of the worst places, in the worst seasons, will be too great to escape the present accurate tests, under the skilful direction of a Thenard, a Hare, or a Silliman. A fortunate combination of circumstances alone, however, can ever ensure success.

We proceed to some further proofs, that our doctrine is not inconsistent with those properties of malaria which have the most important relation with our subject, and which have been already stated. It must be kept in mind by the reader, that, in obedience to a general law of affinity, water, in the minutely divided form of fog, or more perfect vapour, will unite more freely and easily with carburetted hydrogen, than in its liquid state; but that, in this case, a certain point of rarefaction will reverse the law.

We stated that the evidence on which malaria was supposed to attach itself to solid bodies, was not altogether satisfactory; yet, allowing it to possess this property, it forms no objection to our views; for the observation of every day teaches us, that the watery vapour of the atmosphere is constantly deposited on the various solids with which it meets. This is especially the case with fogs, well known to be the most usual, or even the constant vehicle of the deleterious agent. Hence we might reasonably expect considerable danger from fogs thus impregnated; and observation of facts justifies the opinion.

Malaria obeys the motions of the atmosphere, occupying, however, the lower positions, and not rising to the height of a few hundred feet, unless raised by pretty strong currents of wind, or by the influence of the sun. This corresponds with the vapour in question, and we have already shown that it is inconsistent with any other supposition. Every one has seen fogs of various density pass over extensive tracts of country, without rising above the trees, and where they have free access to any inhabited situation, they have produced fever. Hence the danger of even passing through the lower country of our state, in which the mass of decomposing matter, and therefore the source of carburetted hydrogen, is immense, and the country being low, and the winds obstructed by innumerable forests, the poison accumulates to an alarming degree, and produces the most malignant gastro-enterites.

It is dispersed by the rays of the sun. We have already shown, that this property is not possessed by any of the bodies supposed by others to constitute malaria; but every observer will recognise a very familiar property of aqueous vapour. However abundant the fog may be, it is always dispersed soon after sunrise. The vapour becomes rarefied, and rises into the higher regions of the atmosphere. Hence we may expect fever even on high mountains, when there is an abundant source of malaria in the valley; because the contaminated vapour, when rarefied to a certain degree, will rise until the atmosphere becomes too rare to support it, and must then remain stationary until still more expanded. This does occur in various instances; and if it be inquired why it does not happen in every case, we find an explanation in the facts, that the population of such situations is not often great enough to render them remarkable, and the winds are usually strong enough, in high regions, to disperse the contaminated vapour, before it can produce its accustomed effects. To this we may add, that it is highly probable, nay even certain, that the rarefaction of the vapour is often such as to allow even the water to be uniformly dispersed, and the gas to be set free, and come under the laws of uncombined gases. The properties of fogs correspond so precisely with those of malaria, in this respect, that the coincidence might very naturally suggest the probability of the whole of our views.

Fire and smoke prevent the effects of malaria. Dr. Macculloch has suggested that this may occur from the ventilation produced by fire, and the substitution of pure air in place of the contaminated atmosphere. It must be evident, however, that in all such cases, the fire only substitutes one portion of impure air for another; and thus, so far as concerns its ventilating effect, is probably rather a disadvantage than otherwise. As the beams of the sun disperse malaria, so also will fire have the same effect. Under the influence of heat the moisture is expanded, and thus displaced by heavier air. There is no doubt, too, that heat disengages the gas from the water, and thus renders it subject to the laws which govern the mixture of uncombined gases. The effect of heat is, then, precisely what our views would lead us to expect, so far as concerns its effects on malaria. It must be recollected too, that heat keeps up the activity of the cutaneous circulation; an effect in which it directly opposes moisture in a simple state, or in the contaminated form of malaria. The skin, too, being preoccupied by an impression, is less calculated to receive that on which the disease depends. This is a consideration of importance; as we daily apply it to the cure of intermittent gastro-enteritis, (intermittent fever.) As heated air usually accompanies smoke, the same observations will apply to the influence of that agent. In addition to this, however, we must consider, that the acid and other constituents of smoke, may, perhaps, by uniting with the aqueous particles, disengage the gas to which the evil effects are attributable. This, it must be allowed, has not been absolutely demonstrated. The union of smoke with the matter of malaria, must, however, exert a considerable influence, in modifying not only the impression made on the surface, but also the condition of the surface itself, and consequently its capacity for receiving the peculiar morbid change on which depends the subsequent development of gastro-enteritis. These causes will, we think, be quite sufficient to account for the effects; and the phenomena only confirm the doctrine which we advocate, while they invalidate all others.

The interception of malaria by groves, has been quite a mystery to the theorists on this subject, and it is indeed a circumstance not free from obscurity. The animalcular doctrine fails here completely; because animalculæ are not found on the trees as they should be. Their extreme minuteness is no excuse, because every visible body consists of an immense number of invisible particles. This much however is certain; *i. e.* that the greater part of the poison comes in actual contact with the foliage, and is detained or decomposed by it. Now it is a fact familiar to every one, that fogs, in passing through groves, are deposited upon the trees in great quantity; even so as to fall in showers upon the least agitation. The malaria being thus detained, partly penetrates into the leaves and bark, and is partly dispersed by the sun. It is probable, also, that the carburetted hydrogen accompanying the water, is absorbed by the trees, and being decomposed, contributes to their growth, in the same way as carbonic acid. This view appears satisfactory to us, so far as concerns the action of vegetables. Another explanation is necessary in the case of ranges of houses. Allowing the truth of any one of the doctrines of malaria, it must be evident, that the mere mechanical opposition of one side of a street, can never secure the other side, as the cross-streets and other openings, always allow a circulation of air sufficient to produce disease under such circumstances. In Columbia, the streets are one hundred feet wide, and thinly built, with cross streets of the same width. Here then is free access to animalculæ; yet fever is much more common on the side next the river. We have already attempted to account for the influence of smoke and heat; and it will readily occur to the reader, that malaria, after passing the row of houses nearest to a marsh, and depositing a good deal of its substance on the walls of the houses, must encounter, on entering the street, a greater or less quantity of smoke, as well as other accidental and various vapours, *some of which may perhaps have some chemical action on it.* This last part of the proposition, we do not state as decided. In addition to this, it will mingle with warm air, and be heated and rarefied by the caloric passing from pavements and houses, which, by reason of the close situation and constant reflection of heat, have become very warm. We can well conceive, that the combined effects of these causes may diminish the activity of the poison; though, it must be remembered, that this diminution is limited. If the reader think these causes insufficient, let him consider that the mere mechanical obstacle is not here, as in a grove, sufficiently extensive to account for the effect, and that some cause must exist within the street itself; let him then review what we have already said of the action of heat and smoke, and thence draw his conclusion.

Malaria acts most powerfully before the rising or after the setting of the sun. It is well known that the aqueous vehicle of the carburetted hydrogen is dispersed, if not separated from the poison by the beams of the sun. No other doctrine of malaria can be reconciled with the fact.

Aqueous vapour more or less dense, and united with carburetted hydrogen, as the vapour of marshes must be, being repeatedly applied to the skin and received into the lungs, will depress the capillary circulation of both surfaces. Whether this effect is the result of a directly debilitating influence, or whether the vessels lose their tone by exhaustion from repeated or continued excitement, need not be discussed here. Whenever the malaria is accompanied with a chilly night air, the certainty and violence of the resulting disease are greater;* because there is then a double cause for the suspension of capillary action. If the constitution of an individual be worn down and the actions of the vital organs deteriorated by previous debauch or disease, this interruption of the cutaneous functions will be more easily produced; and as, in such persons, the internal organs have generally been a prey to chronic irritation, the new inflammations are more to be dreaded.

If the quantity of gas in the atmosphere be moderate, the fever resulting from its influence will probably be intermittent or remittent; otherwise, it may assume a continued form. Physiologists have attempted to explain the intermittent character of fever, by the fact that its cause is applied in an intermittent manner, and also that the functions of the organs in health are intermittent.† This certainly goes very far to account for the facts; but it does not seem to us to explain the existence of moderate continued fever, and malignant remittent or intermittent. If malignant intermittent result from the periodical application of a violent cause, what must be the character of the cause which produces a mild remittent, or a moderate continued fever? On this subject we have yet much to learn.

The organs which suffer under the influence of the gaseous poison, vary according to circumstances, which are sometimes appreciable, but often very obscure. The mucous membrane of the stomach and small intestines is always inflamed; and in various cases, the large intestines, the liver, brain, and lungs, come into the catalogue of the semiologist; and we have dysenteric, bilious, ataxic, adynamic, and pulmonary complications.[*] None of these phenomena are contrary to what might be expected from carburetted hydrogen, after a full examination of its effects.

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* Macculloch on Malaria, p. 275.

† Goupil: Exposition des principes de la Nouvelle Doctrine Médicale, p. 177.

Patients who recover from the immediate violent effects of the agent in question, but remain exposed to its influence, and suffer repeated attacks, finally die of chronic diseases.[†] The surface, constantly oppressed by the debilitating action of the gas, sinks in the scale of vitality; it becomes pale, with a sallow, unhealthy tinge; its fulness and elasticity are lessened;[‡] its secretory power is weakened; and thus the system loses one of its most important depurating organs, the function of which must be supplied by an increased action in the others, and this increased action conduces powerfully to the production of visceral disease.[§] The acute irritations of the abdominal viscera do not subside completely in malarial districts, nor in cases treated by emetics and other irritants.[‖] When the use of tonics is practised with a view to accelerate convalescence, and strengthen the stomach, the same result occurs. In all these cases, the viscera lose the habit of healthy action; their secretions are vitiated, and become sources of disease; their vessels, always full and heated, exhale fibrin and albumen, thickening their membranes, and interrupting the harmony of their actions.[¶] The liver tumefies, becomes sore, and secretes vitiated bile. The spleen enlarges; sometimes to such a size as to become a deformity and a burden.[**] The stomach excites a thousand unnatural and various symptoms, and disordered digestion constantly torments the individual. To these are added fits of cholera, dysentery, and other consequences of malaria or medicines.[††] The sufferings of these organs are not confined to themselves, but extend to the brain, the functions of which are profoundly modified, especially when the uterus has suffered.[‡‡] The unnatural condition of this organ excites in distant nerves unusual and painful sensations, which are constantly changing their seat,* and, of course, resist local remedies, while the internal medicines generally used, only pervert, more profoundly, the sensibility of the abdominal organs and encephalon, and perpetuate the evils, which, for a moment, they had seemed to relieve. The brain thus responding to the sufferings of the digestive surface and other tissues, finally extends the excitement of its nervous matter to the capillary vessels, and mechanical lesions occur, which sometimes result in irremediable mania or idiotism.† In other cases, the changes occurring in the brain and spinal marrow, induce paralysis,‡ or convulsive affections; and as the foundation of these complaints is in the digestive surface, the prevalent treatment of cerebral diseases but too often increases the evil, by irritating the stomach already too susceptible of stimulation, and too ready to react upon the nervous system. This reflection of the gastric impressions to the brain, and thence to all the nervous cords, establishes in the latter points of irritation assuming the form of neuralgia. Hence, as Dr. Macculloch has explained, we find neuralgia in malarial districts, associated with or supplying the place of intermittent fever. Whenever this neuralgia is distinctly intermittent, it is very probable that there is a lurking irritation of the stomach; yet there is no evidence that neuralgia from causes entirely local, may not assume an intermittent character. When patients constantly exposed to the action of malaria, are able to support for some time the evil influence of this agent, they finally present the most striking pictures of general derangement of constitution.§ The intellect is weakened; they become hypochondriac, neuropathic, the disposition is soured, the patient is ever complaining, and finally falls a sacrifice to some acute inflammation, or is carried off by dropsy or some of the chronic visceral inflammations known by the English as marasmus. Will any pathologist imagine that these important effects are dependant upon any of the agents to which they are usually attributed? Such causes are not sufficient to explain the effects; but a sufficient cause will be found in the substance, the properties of which have been explained in the preceding pages. We have every reason to believe, that the long-continued impression of this gas, so remarkably deleterious in its effects, will develope the whole train of symptoms which we have but briefly stated. We have already called the attention of the reader to the resemblance between the symptoms produced by carburetted hydrogen, and those met with in the various idiopathic fevers of the ontologists; and this similarity should be considered as an argument in favour of the views which we have defended.

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[*] System der Practischen Heilkunde, von D. C. W. Hufeland; Zweyter Band, p. 5 and 6, Jena, 1818.

[†] Macculloch, p. 6.

[‡] Idem, p. 430.

[§] Translation of Broussais's Physiology, first Amer. edit. p. 407.

[‖] Broussais's Physiology, p. 327, 328, 329.

[¶] Idem.

[**] Good's Study of Medicine, 1825, vol. 1, p. 279.

[††] Macculloch, p. 440.

[‡‡] De l'Irritation et de la Folie, par F. J. V. Broussais, 1828, p. 336, 337, 338.

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* De l'Irritation et de la Folie, par F. J. V. Broussais, 1828, p. 315.

† Idem, p. 320, or Macculloch, p. 434, 435.

‡ Macculloch, p. 440.

§ Macculloch, Chapter XI.

Should our opinions prove correct, they ought to exercise a decided influence on all attempts to prevent the production and diffusion of malaria, and on the preventive discipline to which the individual is to be subjected. There is no doubt that many useful facts on the subject of prevention might have been determined, had more definite ideas prevailed on the chemical nature and physiological action of malaria, and it is not extravagant to hope that we may obtain at some future period comparative security from the effects of an agent which is not now resisted until its poisonous effects have been felt.

After having discussed the comparative merits of the doctrines of malaria, so far as concerns its nature, and briefly noticed its influence on the animal economy, we propose to make some remarks on the means most likely to prove useful in preventing its morbid influence, and to consider the general principles of the treatment of fever, as suggested by its pathology.* The latter subject is at present so much discussed, and will be brought before the American public in so full and able a manner, that our observations need not be extended.

The influence of drainage, and of the preservation of groves between habitations and the sources of malaria, is very generally appreciated. The utility of smoke and fires was understood by LANCISI, and their value was practically illustrated by NAPOLEON. We quote from Dr. Macculloch, a very striking illustration of the principle:—

> "One very pointed case, of a civil nature, is also worth recording, because, while it is always particularly easy to imitate, and has been most unfortunately neglected, the circumstances are such as to interest ourselves, as colonists, under some of our least satisfactory experiments of this nature. In this case, the superintendent engaged in directing the cutting of wood in Africa, erected thirty earthen furnaces on the spot where his men were employed, lighting them every day.

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[*] On this subject we cannot refrain from translating the sentiments of an eminent physician. "In this crisis it seemed to me to be salutary, nay, necessary, to select and fix a certain point, (standpunkt,) in which these various opinions might admit of being united, and employed for practical use, in which the good of all parties might be extracted, with the omission of the useless; the genuine practical results of all times might be received, and the medium kept between fruitless speculation and blind empiricism."—*System der Practischen Heilkunde, von D. C. W. Hufeland. Erster Band, p. viii. Jena,* 1818.

Before this he had always from forty to forty-eight of his workmen sick; when, in a short time, they were reduced to twelve, then to four, and finally to one."*

The same practice modified, of course, according to circumstances, should be used in all cases in which it is practicable. On the same principles may we employ other vapours, such as those of vinegar and other acids, volatile oils, camphor, and in fact any volatile substances capable of producing a decided stimulant impression without irritating too vividly the mucous membrane of the lungs. Such vapours disengaged in houses may have some effect, though it will be limited, and caution will be required to prevent pulmonary disease. These means should be employed less with a view to decompose the malaria, than to preoccupy the cutaneous and pulmonary surfaces, by an impression different from that of the gaseous agent, and thus prevent the production of that condition of the capillaries on which the excitement of fever in a great measure depends. We avail ourselves of a similar principle, in applying bark to the gastric surface, in the treatment of intermittent fever. It would be an interesting research, to ascertain the part played by the Schneiderian membrane in the development of malarial fever. The subject has not yet been examined, but it is possible that the impression made on the olfactory nerves may contribute much to the formation of gastritis. Every one is familiar with the strong and instantaneous irritation developed in the stomach by certain odours; may not the inhalation of malaria, and its consequent action on the nerves, produce more slowly the same effect? It is true that the sense of smell is not affected by malaria, but this is not necessary, for it must be observed that some of the odours which produce the greatest gastric irritation, are extremely faint. The impression made on the nervous extremities, must pass to the brain and be reflected thence before it can reach the stomach,† yet it is not necessary that the mind shall be conscious of the impression which first reaches the brain, and in many cases it perceives only the irritation which the stomach directs to it. Thus, when tobacco is applied to the surface, an irritation reaches the brain without exciting sensation, nor does this occur until the stomach, having received the impression from the brain, returns it in a sensible form. We make these suggestions to show that the subject deserves investigation, for if fever be really communicable in this way, we may take advantage of odorous substances to anticipate the impression.

Another means of modifying the state of the skin, so as to prevent the influence of malaria, will consist in the application of various solids and liquids. Every medical man is familiar with the remarkable influence of oil in procuring immunity from the plague.

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* Macculloch on Malaria, p. 286.

† Broussais, de l'Irritation et de la Folie, p. 296.

"Mr. Tully has informed me, (says Dr. Good,) that there was no instance of an attendant on the infected having received the contagion so long as he was regular in thoroughly illining himself with oil, wearing a dress soaked in oil, or a covering of oil skins."* "To the same effect it has been asserted by Mr. Baldwin of Cairo, that among upwards of a million of inhabitants carried off by the plague in Upper and Lower Egypt, during the space of four years, not a single dealer in oil, so far as he could learn, had fallen a sacrifice to it. A similar remark is made by Mr. Jackson, respecting the coolies or labourers in oil-warehouses, during the Barbary plague just referred to. In that of London, in 1665, it is especially observed by Baynard, and most of the writers, that the trades chiefly exempted were those of oil-men, fishmongers, tanners, bargemen, and watermen, the first three evidently protected by the greasy viscidity that covered the hands and dress generally, and the last two by living separate from the scene of contamination, as though cut off by a quarantine."†

These facts are very remarkable, and it is a matter of surprise that they have been so much neglected. Should experiment demonstrate that malarial fever may be prevented in the same way, the establishment of the fact would be invaluable to persons passing through districts abounding in malaria, or residing, for limited spaces of time, in situations almost certainly fatal. Moderate stimulants and slight astringents, combined with oily substances, might be easily applied, and are worthy of a trial.

Having suggested some prophylactic principles, we go on to make some brief observations on the treatment of the fevers produced by malaria. These observations are founded on the pathology of the diseases, as revealed by post mortem examinations, and on the results of the various plans of practice most in vogue.

All the symptoms in the cold stage of malarial fever, demonstrate the existence of congestion of the encephalic, pectoral, and abdominal viscera, with high irritation, especially in the abdomen.‡ Here, the common practice of administering active stimulants, especially laudanum and ammonia, is highly improper. These substances, if administered before the accession of chill, sometimes produce a diffused excitement, with warmth of the skin and perspiration, and this revulsion may interrupt the chain of morbid actions, and prevent the fit. If, however, this revulsion fail to take place, as often happens, or if the stimulants be given after the formation of the cold stage, the irritation of the digestive organs is aggravated, the hot fit is rendered more severe, and the next fit is apt to be more intense. Instead, then, of this uncertain and dangerous treatment, administer internally very gentle diffusible stimulants, such as warm decoctions of orange leaves or sage. To aid these in determining to the surface and destroying the internal congestion, apply warmth extensively to the skin, and use friction, if this can be done without admitting cold air. These agents will lessen the intensity and duration of the congestion, without sensibly increasing the hot stage. In malignant cases in which the congestion is very great, and there is danger of death before the formation of the hot stage, it has been recommended to employ free bleeding from the arm, and cases are detailed, in which this practice interrupted the congestion immediately and saved the lives of the patients.* We cannot speak from experience on this subject, as we have used the lancet but once in the cold stage, and in that case, which was mild, there was no decided effect. Yet, should we ever employ it in malignant cases, it will be with fear and trembling, and with extreme hesitation; for though general bleeding may destroy the congestion, yet it may fail, and in the latter case, the vitality, already alarmingly depressed, may be utterly extinguished. What would be the feelings of the physician, in such a case? The use of tourniquets, and some other means, need not be discussed here.

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* Good's Study of Medicine, 1825, Vol. II. p. 439.

† Idem, p. 440.

‡ Broussais; Histoire des Phlegmasies chroniques, 1826, Vol. III. p. 335.

After the cold stage has passed by, our object is to lessen the violence of the hot fit. As the foundation of a rational practice, we must learn from pathological anatomy, the nature of the disease. This teaches us, that it consists in inflammation of the digestive surface. To this rule, exceptions, if they ever exist, are extremely rare. Irritations of the brain, liver, lungs, and other organs, may or may not exist, at the same time, as effects of external circumstances, or of the gastro-enteritis. If we be told that these lesions are accidental, we appeal to the pathological anatomist for irresistible proof. If it be objected, by those to whom a disease is a set of symptoms, that these phenomena are mere effects of the disease, we reply, that those substances which inflame the stomach, produce all the characteristic symptoms of these diseases; we reply, also, with Roche, the ingenious pupil of Broussais, by asking the ontologists whether heat of the skin, rapidity of the pulse, pains of the limbs, head-ache, thirst, nausea, scanty secretion, &c. redden the mucous membrane, inject its blood-vessels, and produce softening, ulceration, or even perforation?[*] if not, we cannot agree that this entity, existing in their own minds only, produces all or any of the mischief with which it is so unfairly charged.

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* Amer. Journ. of Med. Sciences, Nov. 1827, p. 227.

Emetics were formerly much in vogue, and are still used by many practitioners. The effect of emetics is, to exalt the vital actions of the digestive membrane and its glandular appendages; and this irritation is evinced by the nausea, the excessive contraction of the muscular fibres of the stomach, and the increased secretion of bile and pancreatic fluid. This last circumstance is the source of a great error in those persons, who, having a bilious taste in the mouth, take an emetic, and vomit large quantities of bile and mucus, the removal of which is set down to the credit of the emetic, while, in reality, it had not been in the stomach before the medicine was taken. Emetics may cure gastric irritation in three ways: first, by exciting free secretions from the diseased surface, thus establishing an artificial crisis; second, by irritating a portion of mucous surface not yet diseased, and thus procuring relief on the same principle of revulsion as in the application of a blister; third, by transferring the irritation to the skin, as is very common, thus inducing critical diaphoresis, or to any other organ, especially of the nervous system, which may chance to be irritable. All these chances, for they can be viewed in no other light, often fail; and when this happens, evil results are almost certain; because the degree of revulsion, will, of course, very rarely balance the irritation of the emetic, so that it shall do neither harm nor good.[†] A late writer, after defending emetics as one of the best prescriptions in fever, observes, that no intelligent practitioner has failed to see, in the course of his practice, some cases, in which a single emetic has placed the patient beyond the hope of recovery; and the misfortune, he observes, in these cases is, that this fatal result cannot be foreseen. It ought, then, to be a matter of conscience with the practitioner, whether or not he will administer a medicine which sometimes proves fatal, while there is no means of foreseeing, in any case, the result. I know not how he will avoid this objection. In slight or moderate fevers, the revulsion often cures; but in proportion as the gastro-enteritis is more acute, so does the probability of secretion or revulsion to other tissues diminish.' All this coincides with the laws of the system, by which membranes cease secreting, when excited to a certain point,[‡] and by which all revulsives fail oftener in acute irritations than in mild cases.[*] When the inflammation amounts to well-formed and active bilious fever, emetics rarely fail to do evident mischief; this we have repeatedly seen. The most dangerous of those commonly used is emetic tartar, the effect of which is sometimes actually poisonous.[†] We have seen cases in which it excited the most intense irritability of the stomach, nor are we at a loss for others in which it produced speedy death.[‡] The combination of tartar with Epsom or Glauber's salt, is still more to be dreaded; its effect is artificial cholera.[§] In short, the effect of emetics is so uncertain and so often unfortunate, especially in serious cases, that they should not be used in fever, unless for some urgent complication, in which warm water should be employed.

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[*] Broussais; De l'Irritation et de la Folie, 1828, p. 414.

[†] Broussais's Physiology; Chapter on Abnormal Assimilation.

[‡] Jackson, in Amer. Journ. of Med. Sciences, for Feb. 1828, p. 271.

In England, and in this country, there is an immense consumption of cathartics; not in fever only, but in all other diseases. We know no exception to this statement. Physicians have been so prodigal in this respect, that every man who feels unwell, resorts, as if by instinct to catharsis; and as we do not generally see patients in the very commencement of their diseases, so do we usually see them after they have been freely purged, if not vomited. Dr. Dickson, of Charleston, a man whose brilliant and sound intellect, will place him on a high pinnacle of medical fame, observes, when treating of the use of calomel in yellow fever, that in serious cases he employs "not less than ℈j. at a dose, to be repeated every two, three, or four hours, and very often gives ʒss. at the same intervals. My object," he says, "is to exhibit the maximum quantity of the medicine—the largest amount capable of acting remedially. On this principle I would not hesitate to administer an ounce at the dose if I thought that the stomach would bear it, and the system receive more readily its peculiar influences."[‖] Let us analyse the action of mercurials and cathartics. They sometimes produce vomiting; they therefore irritate. They increase intestinal contraction; another proof that they irritate. They increase the secretions of the liver and mucous membrane; the constant effect of irritants. When given in excessive doses they acutely inflame the mucous membrane.[¶] From these properties it may be determined whether they may be used with safety in gastro-enteritis. Many of the greatest authorities of both ancient and modern times have proved that they cannot. Cathartics may cure gastro-enteritis by exciting free secretion from the inflamed surface; but cure is by no means a constant effect of this.* They may cure inflammation of the upper part of the canal by the revulsive irritations which they excite in the lower portions of the same, and vice versa. In the latter way do emetics sometimes cure dysentery. Both of these effects very often fail, and their chance of success diminishes with the severity of the disease, for when the inflammation reaches a certain point, the membrane refuses to secrete, and here the irritation produced in the lower intestine must amount almost to dysentery, before it can be a revulsion from the stomach, liver and small intestines. Who will venture such treatment, when he reflects that if his remedy fail to relieve, it will be seriously injurious? About three years since, we gave, in a case of acute gastro-enteritis, with much soreness of the epigastrium, a large dose of cream of tartar with jalap. The patient being an old lymphatic woman, and the inflammation confined almost entirely to the stomach and duodenum, a most fortunate revulsion took place, with large secretions, and in twenty-four hours the patient was well. This we explained on the ground of the removal of morbid matter from the blood, and some other hypothetical views which we are now forgetting. A few months since, the same patient experienced a similar attack of rather less severity. As the disease was moderate, and the temperament by no means nervous or sanguine, we gave at first three drachms of sulphur, and as this did not operate, we administered, rather carelessly, after a few hours, one drachm of the carbonate of magnesia. The consequence was six free operations, with rapid and dangerous congestion of the liver, which finally yielded to local bleeding, fomentations, mucilaginous drinks, and enemata. This case, which is but the type of thousands, shows us what faith we are to put in catharsis, as a means of cure in fever. We recollect the case of a young person of an irritable temperament, complaining of loss of appetite, bitter taste in the mouth, and head-ache, to whom we gave ten grains of calomel. In three hours it excited acute gastro-enteritis, which very nearly proved fatal; and a similar treatment being continued, the constitution received a shock, which, from present appearances, will, I am persuaded, never be entirely recovered. We readily make these confessions for the benefit of others, because, when a few years since, we made these errors, our reading had been confined to the then empirical works of our own language, and we had not corrected our errors by observation. Under our present impressions, a similar practice would be culpable, and we shall never follow it. Our friend from whom we have already quoted on the mercurial treatment of fever, says, "I saw no patient die salivated. I saw no case which was not surely and at once alleviated, as soon as ptyalism was brought on."* This is a very singular fact; for although Dr. Dickson's opportunities for observation have been far more extensive than our own, yet we know several cases of death from fever in Columbia, although free salivation was procured in all, and we have positive evidence of similar facts from several of our medical friends. There can be no error on the part of Dr. Dickson, for he is not a superficial observer, and chance is the only explanation we can give. We would add, that the negative evidence of this author, cannot, on philosophical principles, be opposed to our own positive facts. No physician who has not made the experiment, can form a just idea of the very small quantity of cathartic medicine required in the treatment of fever; and the only way to become fully sensible of the unnecessary and disadvantageous irritation which they excite is to observe the progress of cases treated without them. My observation of the comparative duration of summer and autumnal remittent fever, under the system of free purging, sudorifics, &c. and under that to which I shall soon proceed, will give about two and a half or three weeks for the former, and one for the latter; yet it will require further observation to determine this point exactly.

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[*] Begin's Therapeutics, Vol. II. p. 100, 1829.

[†] Heustis, in Amer. Journ. of Med. Sciences, for May, 1828, p. 40.

[‡] Idem; also Orfila. [§] Heustis in the same, p. 41.

[‖] Amer. Journ. of Med. Sciences, for May, 1828, p. 75.

[¶] Murray's Materia Medica, 1824, p. 185.

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* Jackson, in Amer. Journ. of Med. Sciences, for Feb. 1828, p. 272.

As we would not advocate the entire exclusion of laxatives from the treatment of fever, we shall state hereafter some cases in which we have used them with excellent effect.

Among the irritants used in the treatment of fever, sudorifics and substances supposed to be so, hold a conspicuous place. Emetic tartar in small doses, pulvis antimonialis, nitrate of potash, ipecacuanha, Dover's powder, and acetate of ammonia, are the most common. These medicines are of less value in gastro-enteritis, than those already mentioned. They may cure, or at least relieve gastro-enteritis, by exciting secretion and catharsis, as sometimes happens in the action of emetic tartar, pulvis antimonialis, and ipecacuanha; by transferring the irritation to a portion of membrane not inflamed; finally, by transferring it to the skin, and exciting perspiration. The objections urged against emetics and cathartics are applicable to these. When they act well they often fail to produce much impression upon the disease, and when they do not succeed in revulsion or secretion, they irritate a surface already inflamed, and generally increase the inflammation, drying and parching the tongue and skin, and producing nausea and head-ache. Nitre especially, is at once useless and injurious, and its use is common in proportion to its want of value. We have never been able to obtain any proof of its diaphoretic action, and we have no doubt that physicians have used it altogether on the authority of others, who themselves have taken their opinions from tradition. We have never known it to produce diaphoresis, or any other good effect in fever. It is much used as a refrigerant; those using the term having very indefinite ideas of its meaning in this instance. Its only advantage is, that it cools the water in which it is dissolved; but this is far more than counterbalanced by the impression which it exerts upon the inflamed membrane. Its well known effect, when given in large doses, is the production of intense gastro-enteritis, with bloody discharges.* It should be banished from the treatment of fever. Mild diaphoretics, given when a paroxysm is subsiding, sometimes induce perspiration with excellent effect; yet this result is by no means constant, and sometimes a contrary result is produced; so that this class of remedies is not applicable to many cases. The best mode of procuring perspiration is to remove that inflammation of the mucous membrane to which the dryness and heat of the skin are attributable; the skin will then often secrete spontaneously. When the mucous membrane is thus relieved, we will generally succeed in restoring perspiration by very mild diaphoretics, with little or no danger of producing any irritation; or if this arise it is trifling and easily removed. But so long as there is a gastric irritation of any importance, *i. e.* so long as there is decided fever, mild diaphoretics will usually fail, from want of activity, and those of a more active nature will also fail by irritating the stomach.

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* Amer. Journ. of Med. Sciences, for May, 1828, p. 74.

Our limits, and the nature of the present paper, will not allow us to consider more particularly the employment of irritants, but the intelligent reader will be able to extend for himself the principles already stated. We proceed to the proper treatment.

If the disease commence with very intense excitement of the circulatory organs, evinced by a rapid, full, and hard pulse, especially if the epigastrium be painful and swollen, or if there be intense headache, with injection of the face and eyes, the patient should be seated upright, and bled in a full stream from the arm, until the pulse becomes less violent. The capacity of the patient to bear this, must, however, always be kept in view. When there is active congestion of some important organ, the pulse, though often small, will frequently be corded, tense, and hard. Here the lancet is generally demanded, and may be used with tolerable freedom, especially if th pulse soften and dilate during the flow of blood. We have often bee surprised at the unpardonable negligence of authors, in not givin proper cautions concerning the employment of the lancet in person addicted to the use of alcoholic liquors. They bear the lancet les than any other class of patients; and it would, perhaps, be a goo rule, to forbid it entirely in these cases; for though some patients wil demand it, yet these are very rare, and still more rare are physician who can recognise them. In fact, the question will often be beyon the reach of human sagacity. In an immense majority of fevers, th lancet is not proper; yet those cases in which it is safe and useful, ar certainly more numerous in scattered and vigorous populations, tha we would be led to expect from the opinions of authors who hav practised among the weakened constitutions of large and luxuriou cities. We may content ourselves with these few observations on general bleeding, as it would require a volume to do justice to the subject, and such a volume is very much needed in our language.*

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* Paris's Pharmacologia, 1825, p. 452.

The writings of Dr. Currie,† and the useful analysis of his worl published by Dr. Thacher, in his Dispensatory, have sufficienly familiarized the medical world with the great value of cold water, externally applied, in most cases of fever. Where it is not unpleasan to the patient, and where the heat is very intense, it may be used i the form of cold affusion; in other cases sponging may be employed in either way the effect is excellent. If the skin be very moist during the fever, or if there be great debility from diarrhœa, this application is not safe.‡ As a general rule, it is not adapted to exanth matous fevers; but rosalia constitutes an exception.§ In cases which for some hours after the commencement of a paroxysm, the is alternation of heat and chill, it should be avoided until the hot is fully established, though it may sometimes be used earlier wi good effect as we have experienced.

The next step, and the most efficacious of all, is depletion fro the epigastrium. The quantity of blood drawn must be regulated the strength of the patient, and the character, intensity, and stage the disease. It will be extremely rare for this depletion to fail producing a rapid and distinct alleviation of the disease. If the symptoms should rise again after the first local bleeding, the remedy is to be repeated according to circumstances. Certain states of prostration in typhus,* and of acute gastro-enteritis supervening upon a chronic form of the same disease,† counterindicate local bleeding; but the extent and importance of this subject obliges us to refer to other authorities. If there arise, in the course of the disease, symptoms of meningeal or cerebral irritation, as intense head-ache, delirium, tendency to stupor, subsultus tendinum, or extensive soreness of the skin, and the depletion from the epigastrium do not soon alleviate this condition, it will be proper to apply leeches along the carotids, to the temples, behind the ears, or to any part of the head which may be very painful.‡ Here, also, the application of cold to the head will be proper, if it be hot and not covered with perspiration. On the same principles we shall apply leeches to the region of the liver, if that organ be congested or inflamed, around the umbilicus if great thirst and soreness of that region indicate predominance of irritation in that part,§ and to the perinæum, hypogastrium, or course of the colon, if diarrhœa, dysentery, or other symptoms of irritation in the large intestines exist. If the fever be complicated with inflammation of the respiratory organs, leeches and emollients should be applied to the chest, and the drinks should not be so cold as in uncomplicated gastro-enteritis. The reader will find, in the writings of **Broussais**, **Begin**, **Boisseau**, and **Goupil**, those details on this subject, the possession of which is essential to every practitioner.

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* A translation of Poliniere's Emissions Sanguines Artificielles, would valuable.

† Medical Reports on the Effects of Water, Cold and Warm, &c.

‡ First Amer. edition of Gregory's Theory and Practice, 1826, Vol. I, p.

§ Idem, p. 231

The application of emollient fomentations to the abdomen will be useful, as they have a considerable influence in calming the internal irritation, provided they be constantly used. If the abdomen be very hot, the fomentations may be cold, in fact ice water is sometimes applied to the epigastrium with great advantage. If the heat be moderate, they may be temperate or even tepid Their effect is always good, and often surprising.

During the course of the fever, the drinks should consist of cold water, pure, or acidulated with lime juice or tartaric acid, to which may be added white sugar. Mucilages, also, will be very useful, and they may be acidulated and sweetened as the water. They should be made from those substances of which but little is required to render the drinks mucilaginous. Tragacanth is the best of the gums, and hence the most convenient and agreeable of the vegetables. All vegetable infusions of an aromatic or otherwise irritant nature, as well as solutions of animal matter, must be carefully avoided, as our object is to present to the digestive surface bland and debilitating fluids only.

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* Goupil, Exposition des Principes de la Nouvelle Doctrine Médicale, 1824, p. 503.

† Idem ‡ Bégin's Therapeutics, Vol. I. p. 191.

§ Translation of Martinet's Manual of Pathology, 1827, p. 118, 216.

Especial care must be taken throughout the disease, to avoid constipation, and this must be done with as little irritation as possible to the inflamed surface. Local depletion and fomentations will frequently effect this object, but it will often become necessary to employ enemata. These, at first, should be simple and unirritating, but when mild fluids fail to produce a proper effect, moderate quantities of cathartic substances may be added. It must be recollected that enemata cannot be employed when there is much irritation of the rectum. In almost all cases, the treatment above advised will keep the bowels sufficiently open, but in some cases enemata will fail to produce evacuations, and the costiveness will produce evident bad effect. Here, then, laxatives, if judiciously used, may be highly beneficial. If the tongue be red, pointed, and dry, or covered with a dark and cracked coat, and the skin dry and parched, with tension and pain of the abdomen, or other symptoms of very acute inflammation, these symptoms must be reduced by local bleeding, &c. before we can venture upon laxatives, which under these circumstances are very hazardous. When, however, the abdomen is soft, the heat moderate, and the tongue broad, moist, and merely furred, without much redness, the mildest laxatives, such as castor oil, magnesia, cooked prunes, and tamarinds, given in small quantities at moderate intervals will be eminently serviceable, especially if assisted by enemata. In no case is free purging proper.

If, during the progress of fever, the gastro-enteritis become complicated with cerebral irritation and congestion, not yielding to local depletion, we must resort to revulsives. If the patient be perfectly sensible, the irritation increasing rather than diminishing the general irritability, we must carefully avoid those revulsives which excite pain, as they are apt to increase the determination to the brain, and rekindle any febrile symptom which may have diminished. In these cases wrap the legs and thighs in blankets wrung out of hot water, and renew them as soon as they begin to cool. The legs may also be kept in hot water containing a sufficient quantity of mustard to stimulate moderately without causing pain. The application must be continued for many hours. When the brain becomes so much congested as to produce a diminution of sensibility, or even coma, pain is less easily excited, and stronger irritants may be employed. Sina pisms, ammonia, and the solution of cantharides in turpentine may be used, if the sensibility be sufficiently diminished. They may be applied to more or less extensive surfaces of the legs and thighs, and to the back of the neck. The greatest danger is in irritating the brain by pain.

The hot stage of intermittent fever is to be treated as already directed. Sulphate of quinine and other febrifuges are to be used in the intermission; and our great object is to render this as perfect as possible. In common intermittents, the tonic must not be used until all the febrile symptoms are dispersed, and the skin is cool, the pulse natural, and the tongue nearly clean and not too red. Before this, tonics are very apt to aggravate the paroxysms. The diet during the apyrexia must consist of vegetable solutions, as of barley, sago, and arrow root. It will rarely be safe to use tonics in the first interval of common intermittent, or at any period of moderate remittent. When, however, the disease is very malignant, and there is danger of death in the next paroxysm, we cannot depend on antiphlogistics alone, but must resort to the sulphate of quinine in the remission. If the stomach reject it, throw it into the rectum, and rub the skin with the tincture of bark. If there have been several paroxysms, and the pulse be small, feeble, intermittent, the skin livid or pale, and the patient senseless, avoid even local bleeding, apply to the legs and thighs the most rapid rubefacients, while a solution of several grains of sulphate of quinine is thrown into the rectum, and the skin is rubbed with the tincture of bark. The tonics are dangerous in these cases, but without them the danger is greater.

During convalescence from fever, all stimulants must be shunned as tending to renew the gastro-enteritis. The diet should consist, at first of the vegetable solutions above mentioned, and the return to common food should be very gradual.

Our limits have allowed us to state the fundamental principles only of the treatment of malarial fever, and the authors of the physiological school must be consulted for more minute details.

From the present state of our knowledge of malaria, we think that the following conclusions may be drawn:—

That malaria has exerted its influence on man and domestic animals* in all ages.

That it possesses properties different from those of volatile solids and liquids, as well as from those of animalculæ and uncombined gases.

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* For its effects on domestic animals, see Chapter XI. of Macculloch.

That as it has not been obtained in an insulated state, and as its properties coincide exactly with those of that combination of water and carburetted hydrogen which arises from marshes, we may fairly conclude that they are identical.

That it acts primarily on the cutaneous and pulmonary surfaces, and that its effects may be prevented.

That the internal inflammations created by carburetted hydrogen should be treated by antiphlogistics, and not by irritants.

Columbia, S. C. January, 1830.

Art. IV. *Case of Fistulous Communication between the Vagina, Bladder, and Rectum.* By Charles Byrne, M. D., U. S. Arsenal, near Baltimore.

On the 18th of November, 1826, I was called to visit Mrs. M'K. in labour with her first child. The waters, I was informed, had been discharged before my arrival. On examination, I found the pelvis well formed. The os uteri had dilated to about the size of half a dollar, the vertex presenting. The woman had enjoyed good health during gestation, the pains were strong, and every symptom seemed to indicate a safe and speedy delivery. The head, however, advanced very slowly, and at the expiration of twenty hours had not entirely cleared the superior strait. At the end of ten hours more it was found presenting at the labia externa; but the pains had entirely subsided, and the patient seemed very much exhausted. The case now, for the first time, in my judgment, demanded the interference of art, and I accordingly proceeded to render assistance. By introducing the forefinger of the right hand into the child's mouth, and the other hand behind the occiput, it was extracted with little difficulty. The child was dead, and bore all the marks of severe compression. The bones of the cranium were firmly united, and would not yield to the strongest pressure between the hands, to which circumstance I must attribute the difficulty of the labour, and the melancholy effects which followed.

After trying every means for the space of an hour to promote the expulsion of the placenta, without success, I introduced my hand int the uterus, and found that viscus in the state which has been called the "hour-glass contraction." By following the cord, I found that th placenta was attached to the fundus uteri, and was of course confine in the superior division of the hour-glass. I had some difficulty and considerable delay in overcoming the contraction, but finally succeeded.

The patient seemed now quite composed, took some nourishment, passed her water *naturally*, and slept well through the night. But next morning it was observed that the fæces passed off *involuntarily*. The urine was still subject to the will.

The second day the urine and fæces both came away involuntarily. These unpleasant effects I thought might arise from the *temporary* suspension of the powers of sphincters *ani et vesicæ*, caused by the severe compression of the child's head during labour. In every other particular, the patient seemed to be doing very well. Her appetite and strength improved. On the four succeeding days, no command over the evacuations. Applied decoctions of various astringent articles over the pelvis without any benefit.

28*th.*—The nurse reports that the *fæces passed through the vagina* this morning; and on particular inquiry I found that the urine came away in such quantity, and so *suddenly*, when the patient rises or changes her position, that I thought it impossible it could come through the urethra, and was therefore unavoidably led to the conclusion that an opening had been formed between the bladder and vagina, as well as between the latter and the rectum. This might be produced in both instances by the destruction of the vessels of the parts by the long and severe pressure of the child's head. The fæces passed through the natural channel for some time after delivery, which only proves that although the life of the parts was destroyed, the communication had not been fully formed by the sloughing of the dead parts till some time after. On the second day after delivery, the urine passed off in the manner described, or, in the language of the nurse, "*all in one dash*," so that before she could set a vessel under her "it was all in the bed."

Although from all this it was impossible to mistake the situation of things, I resolved to satisfy my mind more fully by touching. But on introducing my fingers into the vagina, I found it filled with fæcal matter, and the parts so inflamed and irritated by the constant passage of the evacuations that it was impossible to move them in any direction with a view to make an examination, without putting the patient to great agony; I therefore desisted for the present.

Ever since delivery the right leg and thigh are occasionally seized with tremors, which shake the whole bed, and are very distressing. She complains of cramps and great weakness in both limbs.

December 4th.—I introduced a catheter, and after drawing off the contents of the bladder, which was very turbid and of a fæcal odour, I introduced the forefinger of my right hand into the vagina, just behind the pubis, and by directing the catheter with the other hand my finger came in contact with the naked instrument. The opening in the bladder seemed to be considerable. I then secured the catheter in the urethra, by means of tapes fastened round the pelvis, with a view to draw off the urine as it collected, and give an opportunity to the wounded bladder to heal.

12*th.*—Expressed herself very much relieved by means of the catheter, and was not sensible that any portion of the urine passed through the morbid opening. Part of the fæces passes sometimes per anum, but still involuntarily. Her appetite and general health pretty good, but lower extremities very weak.

16*th.*—Had an ague and fever at night, and several others at irregular intervals every succeeding day and night. Appetite bad; great irritability of the stomach; complains of pains across the breast and abdomen.

The symptoms of constitutional irritation, from the 16th, on which she had the first ague, till the 29th, the day of her death, continued to increase. She first complained of pains in the loins and across the abdomen; the stomach became extremely irritable, rejecting every thing; the tongue, at first whitish, as the irritation advanced became yellow; the pulse weak and irregular; the cheek alternately flushed with a hectic glow and pale as death.

Although under those circumstances I was well aware her dissolution was fast approaching, it occurred sooner than I had anticipated, in consequence of which, as she had resided at a considerable distance, I lost the opportunity of making a post mortem examination, which I was very anxious to do, as I considered the case one of great interest.

That her death was caused by the general irritation produced by sympathy with the diseased parts, there can be no doubt, and the only light dissection could throw on the subject would be to show *how far* the sphacelus had proceeded in the parts, and how far, if at all, nature had proceeded in her efforts at restoration.

U. S. Arsenal, near Baltimore, Feb. 1830.

ART. V. *Inquiry into the Functions and Pathology of the Liver and Spleen, and Remarks on the Influence and Effects of Atmospheric Temperature as connected with the Origin and Prevalence of Disease, &c.* By J. W. HEUSTIS, M. D. Author of Physical Observations and Medical Tracts and Researches on the Topography and Diseases of Louisiana; and of Medical Facts and Inquiries on the Endemic Fevers of Alabama.

A FULL discussion of the subject of the present inquiry would occupy volumes instead of pages, and much transcend the usual limits of periodical publications. I shall, therefore, merely trace some of the most prominent features, leaving the more elaborate points of controversy and speculation to those whose talents, leisure, and inclination are more adequate to the undertaking. Perhaps, on another occasion I may make a few observations on the debatable questions of the *origin*, *contagion*, and *nature* of the yellow fever, but at present I shall confine myself to a few hasty sketches in relation to the subjects under the above titles.

The importance attached to the function and influence of the liver, as connected with the phenomena of health and the symptoms of diseases, is a physiological and pathological fact too well established to admit of contradiction. But though the distinguished consequence of this important organ is thus generally acknowledged, there still exists considerable uncertainty and doubt with respect to its particular office and design in the animal economy. It is with the view of drawing together a few facts in relation to this and the other collateral subjects of the present inquiry, and making such physiological and pathological deductions, therefrom, as they may seem legitimately to warrant, that the writer of this essay now claims the attention and indulgence of the reader.

Unlike every other gland in the body, it is a received opinion that the secretion of the liver takes place from venous blood, from blood highly charged with carbon, hydrogen, &c. in a state of the greatest possible impurity consistent with the well being of the system, and such as is totally unfit for any other secretion in the body. The presumption is, that the blood returned by the vena portarum, particularly that by the mesenteric veins, brought back from the many convolutions of the bowels, is more highly vitiated and surcharged with impurities than that from any other part or portion of the body. If, according to some modern physiologists, the veins may also be considered to act as absorbents, we may suppose that the venous blood sent to the liver abounds in matters too gross to be eliminated by the exhalents of the lungs, and unfit for the secretory action of the skin and kidneys, and therefore requiring to undergo a previous straining and purification in the liver.

For the purpose of preserving the body in a state of health, we find that nature has furnished it with various provisions, and which, under ordinary circumstances, are capable of fulfilling the wise and benevolent designs of the Author of our being. Against the friction, *wear* and *tear*, deterioration, malaria, and various noxious agents to which the animal frame is subject and exposed, we find the resources of the system wonderfully and admirably adapted. And though physically consistent with the same Divine Power which called man into existence, to continue and perpetuate his being in the present state *ad infinitum*, yet for wise and superior purposes such is not the tenure of his life. Frequent disease and incidental infirmity admonish him of his frailty, and carry conviction that inanimate is at constant war with animate matter, and that the latter must ultimately yield to the dominion of the former. Yet the powers and resources of the system are so adjusted to its various necessities, that under favourable circumstances they may long move on in uninterrupted harmony of action. For the support and preservation of the body, we find a provision of various viscera and organs. Of these some are intended for the preparation of the food, others for the purification of the blood, the immediate pabulum of life, and others, again, for various necessary purposes and uses in the animal economy.

The purifying organs of the body may be set down in the following order: 1, the cuticular; 2, the urinary; 3, the pulmonic; and 4, the hepatic. These may again be divided into two sets, according to the affinities and mutual relations subsisting between them. 1st. The cuticular and urinary, which, by way of brevity may be styled *uro-cuticular*. 2d. The *pulmonary* and *hepatic*, which for the same reason as the preceding, we would term the *pulmo-hepatic*. Between the organs composing each of these divisions, nature appears to have established an intimate relation. The vicarious relation of the function of the skin and the kidneys is too well known to require illustration. And the mutual aid and co-operation of these two great viscera, the lungs and the liver, in the purification of the blood, receives confirmation and support from various considerations.

We will assume it then, as a physiological fact now generally admitted, that the bile is secreted from the blood of the vena portarum. As this blood abounds with impurities which it has acquired in the course of the circulation, we necessarily conclude that the secretion which takes place from it, must be to a considerable degree effete and excrementitious; and that the grosser, carbonaceous, saline, bitter, fatty, and resinous portions combining with the excrementitious part of the food, pass off by the intestinal canal, whilst the albumen and other portions necessary and useful in the formation of chyle unite with this fluid, and thus assist in the assimilation of the alimentary matter, and its gradual conversion and approximation to animal substance. The blood of the vena portarum, having undergone filtration in the liver, is returned to the right side of the heart, from whence it is sent to the lungs, where it becomes still more decarbonized, and undergoes the last stage of purification, when it is again fitted for the various purposes of the expenditure and nutrition of the animal economy.

The resinous and bitter portion of the bile has been considered the natural stimulus and cathartic of the intestines; this is inferred from its sensible properties, and from the torpor and constipation of the bowels which exist in those cases of jaundice where the common biliary duct has become obstructed. Were the bile merely excrementitious, we could hardly suppose it would be poured into the duodenum together with the secretion of the pancreas, to be mixed with the food that has undergone digestion, and not rather into the colon, or have been furnished with a more immediate outlet. If it be objected that such an arrangement would have deprived the bowels of their natural stimulus, it may be replied that had not nature intended the bile for other purposes than that of a gentle and permanent cathartic to the intestines, such a cathartic would not have been required; or. in other words, the alimentary canal would have stood in no need of such a stimulus in order to promote and perpetuate its peristaltic motion; for we find that every organ of the body in its healthy state, is sufficiently stimulated by its natural contents. The urine stimulates the bladder to contraction, and the blood the heart, whilst the stomach, the commencement of the alimentary canal, though in its natural and healthy state destitute of bile, is stimulated to all necessary action by the aliment we receive. To say, then, that the bile is the natural stimulus and cathartic of the bowels, explains nothing. To suppose that the liver is a chemical laboratory of drugs, necessary to the health and well being of the system, is derogatory to the functions and resources of the animal economy. We may presume, however, that in a healthy state the bile answers an important part in the business of assimilation. The blood from which the bile itself is prepared is highly animalized, charged with hydrogenous and azotic principles, and consequently imparting an affinity of properties and character to the secretions resulting therefrom. The greater the admixture of animal juices and secretions, the more is the food approximated to the nature of the body it is intended to support. This process is progressively taking place from the time the aliment is received into the mouth, where it is mixed with the saliva, till taken up by the lacteals of the duodenum and jejunum, receiving in its progress the solvent and animalizing properties of the gastric fluid, the pancreatic juice, the bile, and the secretion of the small intestines. But of all these secretions, next to that of the stomach, the probability is, that the bile is the most important. The saliva, gastric and pancreatic juices appear to act principally as solvents of our food, whilst the bile by its mucilaginous, saponaceous, and highly animalized qualities, produces an intimate mixture and a conversion of the digested aliment into chyle; "for it is demonstrably true," says Dr. Saunders, "that the digested matter does not assume a chylous form until it has passed below that part of the intestine where the biliary and pancreatic ducts make their entrance." A further use of the bile appears to consist in the antiseptic quality of its bitter and resinous principles, whereby it is disposed to resist the putrefactive tendency of the contents of the first passages, and by its alkaline property to correct the acetous disposition of vegetable aliment. These obvious uses of the bile, point out the propriety of artificial substitutes in those cases where this fluid is obstructed or deficient.

It has been stated above that a portion of the bile was evidently excrementitious, and as such passed off by the bowels; and that one important office of the liver was to purify the blood from such gross and excrementitious matters as could not conveniently be eliminated by the lungs and kidneys. In the lungs the carbonaceous matters of the blood are thrown off in the gaseous state; in the liver the impurities of the blood retain their fluid form, and constitute the biliary secretion; the function of the former is more simple, probably resembling that of the leaves of plants; that of the latter more elaborate and complex. To remedy or prevent the morbid tendency in the system, arising from the want of respiration in the fœtus, as well as to assist in the important business of nutrition and assimilation, we find the liver disproportionably large; from its size, therefore, as well as from other considerations, it is not unreasonable to suppose, that even in the fœtal state, this organ is subservient to some important office in the animal economy. Were the fœtus a mere excrescence, no independent vascular arrangement and chylopoietic viscera would be necessary to its growth and nutrition; for this purpose a mere continuity and extension of maternal nerves and vessels would suffice. But, being as it is, an independent system of its own, furnished with its appropriate organs, and these organs plentifully supplied with blood, and some of them, the liver for instance, with more than is necessary for their own growth and development, we are authorized to believe that in the latter instance, a function subservient to the nutrition of the system is supported and carried on, in the same way as is known to exist after birth. For though no nourishment may be received by the mouth of the fœtus, yet the stomach and bowels are undoubtedly furnished with their proper secretions, which, together with that of the pancreas and liver, may form a chylous assimilated fluid, fit for the purposes and nutrition of the fœtal system. During the early period of pregnancy, before the visceral organization is sufficiently perfected, this function may be supposed to exist in a very inferior degree, but in the latter stage of utero-gestation, the rapid accumulation of meconium in the bowels shows that the liver is actively concerned in the discharge of its important office, the purification of the blood, the assimilation of the fluids, and the secretion of bile. HALLER supposed that the liver in the fœtus was subservient to some other purpose than that of the secretion of bile, "When I reflect," says he, "that there is no bile required in the fœtus, there being no food received; when, again, I see that the liver is of great size in the fœtus, and not small like the lungs, which are destined to an operation in the economy after birth, I cannot but suspect that it has some other use in the fœtus than merely the secretion of bile." But if the view which I have taken of the subject be correct, it is not necessary to suppose that any other function in the fœtal liver is necessary, than that which is connected with its own appropriate secretion; and, therefore, that the same important office is performed by this organ before as after birth. It is undisputedly admitted that the hepatic artery is alone appropriated to the support and nutrition of the liver, and that the bile is secreted from the blood of the vena portarum. Such being the arrangement after birth, we can scarcely suppose that the blood of the umbilical vein in the fœtus, as well as that of the vena portarum, would perform the slow and mazy circulation through the liver, and then pass into the vena cava, in order to arrive at the right auricle of the heart, when a more direct communication existed by the ductus venosus, were not some more important purpose concerned in this arrangement than the mere transmission of blood to the heart.

In the fœtal state albumen is found in the small intestines, more particularly about the opening of the common duct of the liver into the duodenum, diminishing in quantity as we trace it towards the termination of the ileum: no albumen, however, appears in the large intestines, but, on the contrary, they are distended with a dark-green excrementitious fluid.[*] That the substances existing in the intestines of the fœtus are not derived from the mouth, is proved by their being also found in acephalous children. In the fœtus the lungs are small, shrunk, and undeveloped; they are here perfectly passive organs, and no more blood is transmitted to them, than is required for their own nourishment, and to preserve their vessels in a permeable state: all changes effected on the blood by the process of respiration after birth, has no existence here. And as the lungs in this state are disproportionably small, so on the other hand, to remedy or prevent any noxious impurity or carbonization of the blood arising from the want of respiration, we find the liver in the fœtus disproportionably large And this relation between the size of the organs holds, not only in the fœtus, but in animals of different habits, nature, and modes of life. Thus, in those instances where the lungs are small, and their function limited and imperfect, the liver is of unusual size and development. It is presumable that the blood of the cœliac and mesenteric arteries undergoes considerable changes in its distribution to the stomach, the intestines, the spleen, the pancreas, and the omentum; that on traversing these different regions very gradually, the carbon it contains unites with the oxygen and hydrogen, assuming a fatty character. It has been said,[†] that if this be the effect in man and quadrupeds, whose respiration is so perfect, in whose vessels the blood circulates with rapidity, it ought to be infinitely more marked in those animals which are able to live a long time in the mud or most infectious filth without breathing, and in whom, where respiration does take place. it is only in a very limited and imperfect manner, from the smallness of their respiratory organs, and from the consequent admission of a very small quantity of air. Such also is the case with fishes, more particularly the ray and the shark, whose gills are small, and whose blood is therefore slowly decarbonized. The size of the liver, therefore, and the quantity of bile are inversely proportioned to the size and perfection of the lungs.[‡] Thus, in those warm-blooded animals which have large lungs, and are always in the air, the liver, compared with the body, is proportionably less than in those which live partly in the water. Such being the relative function of the lungs and of the liver, we are enabled to understand why the quantity of venous blood sent through the liver, should increase as the pulmonary system becomes less perfect. In man, the higher order of animals, and in birds, who live exclusively in the air, the blood furnishing the secretion of bile, is that alone which is returned from the abdominal viscera. But as we descend to animals of less perfect and efficient respiratory organs, the relative size of the liver, and the proportion of blood sent to it are considerably increased: in the tortoise, in addition to the veins already mentioned as going from the abdominal viscera to form the vena portarum, it receives also the blood of the hind legs, pelvis, tail, and vena azygos; in serpents it receives the right renal and all the intercostal veins; in fishes the renal veins, and those of the tail and genital organs, also pass into the vena portarum.

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[*] *Lec. Philos. Mag. also this Journal, for August, 1827, p. 480.*

[†] Fourcroy.

[‡] Tiedemann and Gmelin. Edin. Med. and Surg. Journ. quoted in this Journal, for Feb. 1828.

Most physicians have probably remarked the great increase of the biliary secretion which frequently attends pneumonic affections of the winter and spring, insomuch that the appellation *bilious peripneumony*, is often applied to this disease. The antagonizing relation subsisting between the functions of the lungs and the liver, will explain this circumstance; for as in this disease the respiration is short, difficult, and impeded, so the blood is transmitted with less facility through the pulmonary vessels, and as a necessary consequence the decarbonization is less perfect; hence an increased quantity of excrementitious materials is thrown upon the liver, and is secreted in the character of vitiated bile. Though the bile in a healthy state may be useful and necessary in the process of chylification, we may still reasonably suppose that it is to a considerable degree excrementitious, from the considerations hitherto mentioned, as well as from the quality of the blood from which it is secreted. We find that all the other secretions of the body take place from arterial blood; whereas, the bile is secreted from that which has undergone the last degree of vitiation which it is capable of receiving in the living animal body. After having fulfilled the purposes of nutrition, and contributed to the other secretions of the system, and when it is no longer fit for the general purposes of the nutrition and expenditure of the body, it is sent to the liver, black, grumous, and loaded with impurities. It may be regarded as an absurdity to suppose, that a fluid necessary in the process of chylification, should be secreted from blood of this description, and be also at the same time, to a considerable degree excrementitious; this, however, only serves to illustrate more strikingly the resources of nature, in being able to extract good out of evil; nor is it more surprising than that the industrious bee should extract honied sweets from things offensive and disgusting. Johnson, in his *Animal Chemistry*, speaking of the excrementitious nature of the bile, observes, "hence arises the necessity of this fluid being made with constancy and regularity, for the integrity of all the functions, and the reason of its existing in all animals, and of its being as necessary as the function of the lungs during respiration." To this circumstance of the bile being in a great degree excrementitious, may be ascribed several other properties, viz. its nauseous and disagreeable smell and taste. It appears from the experiments of Fourcroy, that the oily part of the bile is merely in the state of spermaceti, but preserving its fluidity during a state of health. When, however, this matter is too abundant to remain in solution in the bile, it becomes crystallized, forming calculi in the gall bladder, which, on analysis, evidently appear to owe their foundation to this oily concrescible matter, which, being retained either in the pores or parenchymatous substance of the liver, often proves the source of several of its diseases. Thus, from the most impure blood, and such as many have supposed strongly disposed to putrescency, a fluid the most antiseptic of any in the body, is secreted. What effect the bitterness of the bile may have in resisting the putrefactive tendency of the fæcal residuum in the bowels, we cannot positively say; but we know that the fæces undergo a degree of putrefaction in the large intestines, and it is possible that the bile may check and retard this process.

The function of the spleen is still involved in considerable obscurity. It would appear, however, from every consideration of the subject, that its office in the animal economy, is, if I may so speak, merely *negative.* Thus, it furnishes no secretion, and the purified arterial blood that has just undergone the ventilation of the lungs, after circulating through it, without any apparent object, is returned, in common with the blood from the other abdominal viscera, to the vena portarum. The blood, in its circulation through this viscus, manifestly undergoes a change from arterial to venous, and in this manner becomes fitted for the secretion of bile. We can hardly suppose, however, from this circumstance, that the spleen is subservient to the function of the liver; for I have previously attempted to show that the office of the liver is to purify the blood, after it has been deprived of its restorative and nutritious properties, in its distribution to the alimentary canal and other abdominal viscera, and has become surcharged with carbon and other noxious matters: and to suppose that the spleen answers no other purpose than that of vitiating the blood, in order to fit it for the secretion of bile, is to presuppose a most preposterous error and absurdity in the conformation of the system. It has moreover been found, that the extirpation of this viscus, after the re-establishment of health, has not been productive of any change in the sensible or chemical qualities of the bile.* It is not agreeable to the economy of other parts of the system, to suppose that so large a quantity of blood as is sent to the spleen, is all required for its support; for the splenic artery is large in proportion to the size of the viscus, and its vein is one of the principal branches of the vena portarum. The coats of its veins are very thin and yielding, and its substance loose, spongy, and distensible. That it is subject to sudden engorgements of blood, and to vast and rapid increase in size, we have frequent proofs and examples. The structure and situation of the spleen, would, therefore, seem to point it out as intended for a guard to those important organs, the stomach and liver. Its artery, derived from the cœliac, the common trunk of the gastric, splenic, and hepatic, is conveniently situated to receive and transmit an increased impetus of blood. It is possible, however, that its agency and function may extend to other remote and more general portions of the system; but if any benefit and safety should be derived in this way from it by the body generally, its effect, probably, is inconsiderable, compared with its more immediate subservience to the stomach and liver. Such a view of the function of the spleen, elevates it to a station of considerable consequence. It is well known how important is the relation which the stomach bears to other parts of the body; it being on the healthy condition of this organ, that the soundness and integrity of every other portion of the system so essentially depends, such is the intimate and sympathetic connexion of the stomach with the different and distant parts of the body, that when the former is disordered, the latter languish. A sick stomach enervates the mind, and relaxes and debilitates the body. Being itself, as it were, the centre and source of sympathy, it not only communicates its own sufferings to other parts of the system, but also participates in and receives those of the latter. Such being its importance and general sympathetic connexion, it is not surprising that the ancients, imperfectly acquainted as they were with the animal economy, should have considered it as the seat of the soul, or that VAN HELMONT should have made it the throne of his Archæus, or presiding spirit. From the high rank and distinction thus possessed by the stomach, we might, *a priori*, suppose that extraordinary care would have been bestowed by nature to guard and protect it against any sudden and hurtful emergency, by securing it against dangerous congestion and unusual impetus of blood. The use and importance of the spleen in this way, may be inferred, if we turn our attention to numerous instances of autumnal fever which annually fall under our observation. In such cases, we find the spleen particularly involved in the general affection of the vascular system. This is more especially the case in the different grades and forms of intermitting and remitting fevers, characterized [illegible] the paroxysms commencing with a chill or ague more or less intense, of irregular and uncertain duration, and followed by a hot stage, which may or may not terminate by sweat. In fevers of this description, there is at the commencement of the paroxysm, a general shrinking and coldness of the exhalent and mucous surfaces; the skin is cold and constricted, and the blood, the vivifying and calorific principle of animation, receding from the smaller vessels, a general sensation of coldness ensues. A similar state probably exists in the exhalent and mucous surfaces of the lungs and alimentary canal: hence the anxiety, sighing, and oppressed respiration, and the torpor and constipation of the bowels. But while the blood thus recedes from the smaller, it is accumulated in the larger vessels; hence the engorgements that are liable to take place in the abdominal viscera: it is in this way we explain the congestions and enormous enlargements of the spleen, so frequently resulting from long protracted or often repeated attacks of intermitting or remitting fever. The structure of the spleen being lax, soft, and easily distensible, admits freely an undue portion of the accumulated load thrown upon the abdominal viscera; and its contiguity to the stomach and liver, and the circumstance of its deriving its blood from the same common arterial branch, diverts, in a considerable degree, the dangerous engorgement, which otherwise would take place to these important viscera.

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* See Saunders on the Liver.

But, as previously stated, it is not the stomach alone that the spleen is designed to protect. The liver is also an organ of very considerable importance, and one whose function is as often deranged from the influence of febrile causes as that of any other. The inflammation of its membranous covering is, marked by acute and painful symptoms, like that of other serous surfaces; but its parenchymatous or internal structure being less sensible, is often very seriously deranged by repeated or long-continued engorgements from exposure to malaria or from attacks of fever, without betraying its condition by any particular pain or uneasiness. But we have here other symptoms to guide us, afforded by the state of the stomach and bowels, the appearance of the discharges, the complexion, &c. We have already attempted to show the great importance of the function performed by the liver in the animal economy. To protect an organ of so much consequence to the health and integrity of the general system, may we not therefore reasonably suppose that the spleen occupies an important station?

From the causes above mentioned, we often find the spleen enormously enlarged, sometimes apparently occupying nearly the whole extent and circumference of the abdomen, producing certainly by its size and weight inconvenience in the movements of the body, and by compression of the neighbouring viscera and blood-vessels, perhaps giving rise to hydropic symptoms; this effect I have known to be produced by it, though not generally to an alarming or dangerous extent. Where the spleen is thus enlarged, however, the person seldom enjoys good health; he appears lean, sallow, and cachectic; a slow insidious febricula attends him, though his appetite is often keen and voracious, and his mind fails him upon slight exertion. What, however, would be the consequence were any other viscus thus surcharged and overstrained beyond its natural capacity? Total disorganization of the part, or death of the individual would speedily ensue. But in the peculiarity of structure possessed by the spleen, there seems to be scarcely any definable limits to the degree of enlargement, and we accordingly find that it still goes on increasing as long as the cause which first produced it continues to act. This, although it may be considered as an alternative of evils, is yet greatly on the side of advantage to the patient, a lesser evil to prevent a greater. Instead, therefore, of repining that man's organization was not made more perfect, conferring an immunity from disease and infirmity, should not rather our gratitude and admiration be excited at the goodness and wisdom of the Creator, in affording so many means of protection against the diseases and accidents which assail and beset us?

I think it may be safely affirmed that the nervous is more influenced by the vascular system, than the latter is by the former. Thus, violent pains and spasms may exist without disordering the action of the heart and arteries, but no sooner are the latter disordered, than the whole nervous system becomes to a greater or less degree affected. Now the remote causes of fever in all probability operate primarily upon the vascular, and secondarily upon the nervous system. In the cold stage of fever there is a shrinking of the smaller vessels, and the blood evidently recedes from them, the pulse is weak and small, the skin shrunk and cold, and the bowels torpid. But as no loss of blood has taken place, whilst it has evidently receded from the smaller vessels, it must consequently be accumulated in the larger trunks. Such an accumulation presupposes reduced strength and vigour in the action of the heart and arteries, in consequence of which the blood accumulates at the right side of the heart, and venous congestion takes place, more especially in the brain, the vena cava, and the portal system. But though the blood in these vessels is thus rendered slow and sluggish in its motion, we can hardly suppose that there is an actual arrest or suspension of its movements, for as long as the arteries continue to act and pour forth blood, it must continue to be returned by the veins, although a degree of distention may take place in consequence of impeded action. But in instances of this nature, as previously observed, the spleen appears to be the great reservoir of blood, to guard against the total inundation and destruction which might otherwise take place in parts and viscera more essential to vitality. As the structure of this viscus is different from that of any other organ of the body, as its vessels as well as its substance are lax, yielding, and distensible; as it performs no active duty, nor furnishes any secretion, its engorgement deranges no function, whilst at the same time a flood-gate is opened for the protection of other important organs.

It has been supposed by a late European writer on tropical diseases, Dr. JAMES JOHNSON, that the hepatic system is affected by sympathy with the surface of the body, in the following manner. The extreme vessels on the surface of the body, and by sympathy of the vena portarum in the liver, having been excited into inordinate action during the intense heat of the day, and suddenly struck torpid by the raw, damp, chilling land winds; the consequence of which is, that the perspiration and the biliary secretion are checked, the blood determined inwards is impeded in its passage through the liver, and accumulation ensues in the portal arch, which is immediately communicated to the brain. During this period, the bile stagnating in the biliary ducts, becomes viscid; and on the recommencement of a hurried secretion, from emetics or other remedies determining the blood to the surface, often so obstructs the natural passage into the intestines, that regurgitation into the circulation takes place and tinges the skin yellow. A great deal, however, is forced up through the stomach in a viscid and vitiated state, tending to keep up the gastric irritability, and sometimes to destroy the stomach altogether. He thinks this explains why the men were all seized in the night, and why a nocturnal exacerbation was ever afterwards observed. "With strict justice, therefore," says Dr. Johnson, "and with more propriety we might denominate the fever in question *hepatic* rather than *bilious fever*, and with some slight modification, principally in degree of violence, I shall show, in a future section, that in reality it is *alter et idem* hepatitis itself." If it is contended that diseases of the liver and increased secretion of bile, so frequent in hot climates, are owing to sympathy between the hepatic and cutaneous vessels, I would ask why may we not suppose the existence of a similar sympathy and correspondence of action between the skin and other internal organs; for instance, the kidneys? But here we find, on the contrary, the secretion of urine diminished in proportion to the increase of the perspiration. To make an exception in favour of the liver, and to say that *it follows a law directly opposite to that which favours the secretion of urine,* appears to be advancing a proposition without just and satisfactory grounds and arguments to support it. It is a well known fact that the secretion of bile is increased in warm weather, but to say that this is owing to sympathy with the skin appears a mere gratuitous assumption. Were this the fact, labourers, even in healthy climates, during the summer season would be seized with diarrhœa or cholera as often as their skins became bathed in sweat, and the effect upon residents in hot climates would be continued and speedily overwhelming. The argument drawn in support of this hypothesis from dyspeptic, chlorotic, and diabetic patients, in whom a dry skin and a deficient secretion of bile are often observed, is entitled to but little weight or consideration, as proving nothing more than that there is a general deficiency in the healthy secretions of the body. And it remains yet to be shown that indolent and sedentary persons in hot climates, in whom the perspiration is necessarily less, are, therefore, less liable to redundancy of bile than those who follow laborious employments.

It is a little surprising that the author above alluded to, after attempting to prove the sympathy existing between the secretion of bile and perspiration, should advance a fact in direct contradiction to his own hypothesis, and be under the necessity of having recourse to the agency of cold to assist him in his argument. The fact adduced, is that mentioned by Sir James M'Grigor, that during the march of the army over the sandy desert of Thebes, when the thermometer frequently stood at 118° in the soldiers' tents, the health of the troops was equal to what it had been at any former period in India. He therefore infers that heat is not the principal cause of the prevailing diseases. "It certainly is not," says Dr. Johnson, "but when excessive and long-continued, it induces that state of the vessels on the surface and of the liver, which is easily thrown into disease by the sudden application of a slight degree of cold." Here then we have heat producing an increased secretion of bile, but no disease or inconvenience resulting, and only throwing the system into a morbid state by the subsequent application of cold, or, to speak more intelligibly, by subsequent exposure to a reduction of temperature somewhat below that which gave rise to the increased secretion. The operation of cold is explained by the same author, in the following manner: "Not only is the animal heat too rapidly abstracted, but the extreme vessels on the surface, and likewise those of the *vena portarum* are instantly struck torpid, the perspiration and biliary secretion are arrested, the passage of the blood through the liver is obstructed, and a temporary congestion throughout the portal circle is the result." This explains the philosophy of the practice of the physicians previously to the days of Sydenham; which was by artificial heat to prevent the vessels of the vena portarum from being *struck torpid.* This view of the subject would also seem to demonstrate the danger to be apprehended from the modern practice in fevers, of bleeding and the cooling regimen, and the importance and absolute necessity of maintaining a high temperature in order to prevent the blood from stagnating in the liver. But, according to this hypothesis, how does it happen that the inhabitants of elevated and dry situations in temperate as well as in intertropical climates, are not equally subject to hepatic diseases as well as those who live in the vicinity of rivers and marshes? The former are equally subject to the vicissitudes of temperature as the latter, and a cool night or a shower of rain should be equally productive of hepatic diseases, diarrhœa and cholera in one situation as the other, but general observation and experience prove that such is not the fact. What then becomes of the theory of Dr. Johnson?

Among the remote causes of hepatic diseases, in hot as well as in temperate climates, may be mentioned sedentary and inactive habits, and the too free use of spirituous liquors. The influence of inactivity in producing visceral disorders may be explained by sundry considerations; in the first place, a general debility is induced as well of the muscular as of the vascular system; in consequence of this debility the blood circulates with less force through the liver, and hence congestion and permanent obstruction may take place. It is in this way, as connected with and resulting from visceral obstructions and enlargements, that we may explain the ill health, short lives, and sudden deaths of so many scholars and philosophers who have enriched, enlightened, and benefited the world by their recluse and solitary labours. A remora of blood takes place in the many convolutions of the liver, and obstructions and morbid enlargements follow as the necessary consequence. In this way that philosophical painter, Sir Joshua Reynolds, fell an untimely sacrifice to his unwearied assiduity and devotion. To him a minute unprofitably or rather uselessly mispent, was a loss irreparable and a melancholy blank in the sum and history of his life! Had he been aware, however, of the rapid inroads which an insidious disease, arising from his sedentary occupation, was making upon his health and constitution, he might have found that a little prodigality of life in wholesome exercise and relaxation, would have been his greatest gain and the surest means of protracted and permanent enjoyment. In persons who use but little exercise, there is but little expenditure of strength or substance, in consequence of which there is often an undue accumulation of fat both within and upon the surface of the body. This accumulation has the effect of still further impeding the circulation, as may be observed in all inflammatory diseases affecting corpulent persons, so that the vascular obstruction keeps pace with the accumulation of adipose matter in the cellular membrane. In this way we may account for the premature death of that astonishing man, who for many years held all Europe in awe and apprehension, and even terrified the British lion. His whole life had been a scene of activity and exertion, the short but profound studies and reflections of his closet or his pillow were followed by a world of corporeal industry and toil. Can we wonder then, that, confined to a solitary rock in the midst of the wide-spread ocean, that he who grasped the world in his imagination and sighed for universal empire, should soon experience the morbid influence and effects arising from the disuse of that corporeal and mental exertion to which he had hitherto been accustomed? His gigantic genius was humbled to the dust, and gloom, melancholy, and despair took possession of his mind, and preyed upon his body.

As connected with the remote causes of hepatic and glandular obstructions, I beg leave to introduce a few remarks with respect to the operation of spirituous liquors. In the soft and spongy texture of the parenchymatous substance of the liver and spleen, the vessels, from the delicacy of their structure, and from their mazy convolutions, are liable to become enlarged and distended upon every preternatural increase in the action of the sanguiferous system, whereby debility and derangement of their function ultimately ensue. Without, therefore, supposing any thing peculiar in the operation of spirituous liquors by which they may be particularly disposed to affect the biliary organs, the diseases to which they are liable from the use of those liquors may be accounted for from the frequent excitement and over-stimulation produced by repeated fits of intoxication; but if at the same time we conclude that the liver is affected in a degree proportionate to the quantity of biliary and excrementitious matters existing in the circulating fluids, and that spirituous liquors have a tendency to produce such vitiation, we shall perceive that in this way ardent spirits have a secondary influence besides that of producing a temporary excitement in the sanguiferous system. In this manner, from frequent congestions and the inordinate stimulus applied to it, this organ becomes at length preternaturally enlarged or scirrhous in its substance, and debilitated and paralyzed in its action.*

But to resume the subject of atmospheric temperature, it may be remarked, that heat alone, though alternating with cold, is not capable of producing any thing like an epidemic disease, or of occasioning derangement in the function of the liver. For this purpose it is necessary that there should be a morbid condition of the atmosphere, arising from the extrication of miasmata, or from causes less obvious to the senses, but at the same time disconnected, as an efficient agent, with the temperature of the air. For, as previously remarked, we often find fever prevailing in sandy places, whilst others, in the same vicinity, equally subject to the vicissitudes of heat and cold, are entirely exempt from disease. That heat has a remote and important agency in the production of the endemic diseases of tropical, as well as temperate climates, is not denied; for its influence in this way is too well ascertained to admit of contradiction; but then it is necessary that there should exist corruptible materials for it to operate upon, before it can give rise to epidemical diseases. It is well known that those who live on board of ships in hot and unhealthy countries, at a sufficient distance from the land, are not affected with the prevailing endemic of the climate, whilst those, on the contrary, who visit the shore, and remain over night, become, almost inevitably, the subjects of disease. Dr. HUNTER, in his account of the diseases of Jamaica, remarks, that the heat of tropical climates, though generally represented as the cause of their unhealthiness, will not alone produce fevers; and instances in proof, the circumstance of those inhabitants who live on dry and sandy spots, along the coast, where, although the heat is unusually great, there is a complete exemption from tropical diseases.

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* But although the liver and spleen are the principal sufferers, they are by no means the only parts that experience the pernicious operation of spirituous liquors. There is scarcely a gland, viscus, or vessel of the body, that is not injured in a greater or less degree from their protracted and habitual use. Hence, by their debilitating and atonising influence upon the body generally and particularly, they lay the foundation for gastritis, enteritis, phrenitis, ophthalmia, pluritis, splenitis, hepatitis, nephritis and diabetes. At the same time they produce a state of torpor and paralysis of the lacteal and lymphatic systems: the mesenteric glands become torpid, inflamed, obstructed, and proceed to suppuration; hence the chyle is prevented from passing into the circulation, and atrophia and tabes follow. From the general debilitated state of the sanguiferous and lymphatic systems, the legs become œdematous, erysipelatous, or ulcerated, and from the same cause, together with the enlargement of the liver and spleen, general dropsy is apt to ensue, whilst the abundant secretion of bile gives rise to jaundice, biliary concretions, colic, and cholera. Their enervating influence occasions palpitations, syncope, tetanus, palsy, impotency, premature decay, decrepitude and old age. Their operation on the brain and nervous system produces melancholy, mania, and fatuity. They also give occasion to inflammation and obstruction in the lymphatic and conglobate glands of the lungs, and impair the functions of those vital organs.

Too much water, or too great dryness, are both unfavourable to the extrication of noxious miasmata. It is well known, for instance, that substances in a state of dryness, remain free from corruption. A constant supply of, or submersion in fresh water, also very much retards decomposition. It is well known that the circumstances required for the decomposition of dead animal or vegetable substances, are heat, moisture, and exposure to the atmospheric air. The temperature most favourable to the process, seems to range between 75° and 95° of Fahrenheit. A higher degree of heat, by dissipating humidity, impedes or suspends the process. The degree of heat necessary to putrefaction is much lower than that which is required for spirituous or acetous fermentations; for putrefaction takes place at the temperature of 45°; but a higher temperature is still more favourable, at least if the heat be not so violent as to volatalize and dissipate the moisture of the putrescent substance, and render it entirely dry. Access of air is another circumstance especially favourable and necessary for putrefaction, for it is found that vegetable substances are preserved in vacuo.

In purifying the atmosphere, gusts of wind and showers of rain have considerable influence, by [illegible] and dispersing noxious miasmata; and thereby giving a [illegible] and prevalence of disease.

"It is commonly asserted," says [illegible],* "that the heat in Egypt puts a stop to the plague, while it makes it break out in Constantinople." He accounts for this difference in the following manner. At Constantinople, the exhalations from various bodies, in a state of putrefaction, are very copious during summer; the cold of winter prevents their formation, and the disease ceases. In Egypt, on the contrary, the action of the sun is very powerful, even during winter, and gives rise to noxious exhalations. When the lowgrounds

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[*] Assalini on the Disease called the Plague, &c. Amer. Edit. p. 72.

have become dry, which happens in the month of Nisedor, (in June, at the festival of St. John,) then the coast of Lower Egypt becomes as healthy as the rest of that fine country. It is remarked by the natives on the coast of Coromandel, and the observation is confirmed by the experience of many Europeans, that the longer the hot land winds continue to blow, the healthier are the succeeding months; agreeably to their opinion, these winds purify the air. The inquiry is made by Dr. Lind,* whether these winds are not the cause why the air on the coast of Coromandel, except during their continuance, is more healthy than other parts of India, where these winds do not blow; and whether this does not suggest a very probable reason why the plague in Egypt generally ceases about the beginning of June; the periodical hot winds that come from the deserts of Nubia and Ethiopia, having then rendered the air in Egypt pure and wholesome. The fact of the hot winds, as they are properly called, putting a stop to the plague in Egypt, is confirmed by the generality of travellers who have made observations on the subject. After the 24th of June, the plague, however great may have been its ravages, ceases in Egypt. After that day, there is scarcely an instance of any person being attacked by that disorder. Some have attributed this to the overflowing of the Nile, others to the prevalence of the north wind; but it is pretty clearly ascertained, that the plague generally ceases before any increase of the Nile is perceptible, and before the commencement of the north wind. And Mr. Antes has shown from authentic facts, that any extraordinary degree of heat, even at an earlier season, produces a similar effect.†

A certain degree of moisture is indispensably necessary for decomposition. When animal bodies are suddenly deprived of their humidity and aqueous parts, they become dense and incorruptible, like petrifactions. This is the case in the arid and sandy deserts of Egypt and Arabia, and in some parts of South America, where, notwithstanding the excessive heat, the dryness of the atmosphere and soil prevent putrefaction, by the rapid exsiccation of the animal juices which it occasions. By the increase of caloric, the quantity of water which the atmosphere is capable of holding in solution, is also increased. Now, the air in passing over these parched and sandy deserts, where there are no trees or other aqueous exhalations to refresh it, becomes intensely heated by the scorching sun, so that its capacity for water is greatly augmented; from which circumstance, it robs every thing of humidity which is capable of affording it, and animal bodies are converted into mummies. We are informed by the learned Dr. Shaw, in his Travels from Egypt to the Holy Land, that he saw in the deserts, the bodies of some dead camels, which had belonged to a former caravan, and remaining in a state of preservation entirely free from putrefaction. It is, perhaps, more to the dryness of the air and soil, than to any art of embalming, that the preservation of those human bodies, called Egyptian mummies, are owing.

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* Lind on the Diseases of Hot Climates, p. 47.

† Antes' Observations, p. 45. Brown's Travels, p. 360.

The destruction of caravans and travellers in the deserts of Asia and Africa, is frequently caused by the fatal breeze called the *Samiel wind*, a blast of which, in those parched deserts, proves instantly fatal to the unfortunate traveller or beast that may be exposed to it. These winds seem to produce death by suffocation, in consequence of their depriving the lungs of the ability to perform their function, and not by any pestilential poison in the air itself. It appears, from the experiments of Dr. Priestley, that oxygen gas will not act upon the blood through dry membrane, and that a moist state is necessary for this purpose. The dry and parched air of these sandy deserts, instantly absorbs the moisture from the delicate membrane forming the air-cells of the lungs, and thereby prevents the oxygen of the atmosphere from performing its purifying operation on the blood. The effects of this air upon the surface of the body are similar to those upon the lungs; it shuts up the pores of the skin, and puts an entire stop to the perspiration. These reflections were made previously to my seeing those of Mr. Volney upon the same subject, who says, in his description of the *Camsin*, (which may be considered the same as the samiel,) "the lungs are irritated by the presence of this air, are contracted, and rendered crisp. This wind crisps the skin, evaporates animal moisture, closes the pores, and produces febrile heat, which always accompanies [illegible]." The effect of this hot suffocating [illegible] kind, on the human body, even when mitigated [illegible] a moist atmosphere, is the same as that of [illegible] every pore of the skin, and entirely stops the [illegible] such as are exposed to it. They come on only in the dry time, and always from the desert. Water is the only known antidote or corrector of this vapour.* It appears from the experiments of [illegible], that a cubic foot of atmospheric air will hold eleven grains of water in solution. A certain degree of humidity is necessary to preserve substances upon the surface of the earth in a proper state of moisture and pliability. During a season of the year, the wind called the *Harmattan* prevails in the interior of Africa, which is so extremely dry, from passing over the sandy deserts, that furniture of houses is destroyed by it, the floors and joints of buildings are laid open, and the scarf skin on the surface of the human body is rendered crisp and peels off. We are informed by Wafer, an English surgeon, that he and some others, landed at [illegible], in South America, in 1687, and marched about four miles up a sandy bay, "all which," he says, "we found covered with the bodies of men, women, and children, which lay so thick, that a man might, if he would, have walked half a mile, and never trod off a human body. These bodies, to appearance, seemed as if they had not been a week dead; but if you handled them, they proved as dry and light as a sponge, or a piece of cork."* It appeared upon inquiry that this was once a large and populous city, called Wormia, inhabited by Indians, and that upon the invasion of the country by the Spaniards, the inhabitants, rather than be at the mercy of their savage enemies, dug holes in the sand, and buried themselves alive. "The men," says the above-named author, "as they now lie, have with them their broken bows, and the women their spinning-wheels and distaffs, with cotton yarn upon them." This account, with other instances and particulars of a like nature, is confirmed by Fuzier, a French voyager, who was in Peru in [illegible].†

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* Lind on Hot Climates, p. 144.

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* Voyage and Description of the Isthmus of America.

† A striking and remarkable instance of the power of *cold* in preserving animal matter is given by Professor [illegible], as taken from a report in a supplement to the *Journal du Nord*, [illegible], by Mr. Adams, adjunct member of the Academy of Petersburg. [illegible] the body of a large animal, which was discovered [illegible] Tonguusian fisherman, projecting from an ice bank [illegible] north of Siberia. In the summer of 1803, the [illegible], the enormous carcass became entirely disengaged, [illegible] down from the ice crag on a sand bank, forming part of the [illegible] Ocean. Two years afterwards, or in 1806, Mr. Adams went to examine [illegible], which still remained on the sand bank where it had fallen from [illegible] its body was then greatly mutilated, in consequence of the depredations of the inhabitants of the neighbourhood, the Jakouts, who had taken away [illegible] of its flesh to feed their dogs, and the wild animals, particularly the white bears, had feasted on the carcass. The skin was extremely thick and heavy, and as much of it remained as required the exertions of ten men to carry away. More than thirty pounds of the hair and bristles of this animal were [illegible] from the wet sand bank, having been trampled in the mud by the white bears, while devouring the carcass. As

Excess of, or submersion in water, is also unfavourable to decomposition. Dr. Dazille, in his treatise upon the diseases of the negroes in the West Indies, informs us, that the rainy season is the most healthy at Cayenne, owing to the neighbouring morasses being deeply overflowed. It is related of Empedocles, the Sicilian philosopher and poet, that he put a stop to pestilential diseases among the Salaçenti, by turning [illegible] into the morass from which they originated. It is well known that the overflowing of the Nile puts a stop to the plague in Egypt, by covering the low grounds, and preventing the progress of putrefaction in the alluvial matters which lie upon the surface of the earth. The letting out of water from the fosses of fortified towns, has produced malignant remittents, and the letting it in again has put a stop to their progress. Sir John Pringle, speaking of the diseases of Flanders arising from the low, damp, and [illegible] situation, intermitting fevers as the prevailing complaint, observes that when the heat comes on soon, and continues throughout autumn, not moderated by winds and rains, the season proves sickly, the distempers appear early, and are dangerous; but when the summer is late, and tempered by frequent showers and winds, or if the autumnal cold begins early, the diseases are few, their symptoms mild, and their cures easy. For in marshy grounds intense and continued heats, even without rain, occasion much moisture by the exhalation which they raise and support in the atmosphere; whereas, frequent showers during the hot season, cool the air, check the rise of vapours, dilute and [illegible] the corrupted water, and precipitate noxious effluvia. We are informed by the same author, that the inhabitants of Breda, during the season of bilious fevers, secure themselves from the noxious [illegible] of marshy ground in its vicinity, by overflowing [illegible] Purchas that five hundred persons [illegible] after the Nile overflowed the ground [illegible] that had produced it, than had died [illegible] manner in which the inundation of marshy grounds [illegible] of noxious exhalations, is not so much by the [illegible], for water is always saturated with atmospheric air, [illegible] the temperature of the surface below [illegible] decomposition. As the particles of [illegible] rays are specifically lighter

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this must have belonged to a [illegible] at present extinct, and of which no account is given in natural history. [illegible] probable that this carcass might have been preserved in this block of ice some thousands of years previously to its discovery. By what accident it became placed in this situation, is not the object of the present inquiry to investigate.

than those beneath, it of course is physically impossible that they should descend, so as to impart their warmth to the subjacent stratum, as long as they retain this disproportionate superiority of temperature; so that when the water is deep, the bottom must always remain unaffected by the heat of summer, and will consequently continue cool while the surface is warm; and in this way decomposition is prevented from taking place in the subjacent mass of vegetable and animal matter. Where, however, a thin sheet of water only is spread over the surface of the soil, the whole body of fluid becomes heated by the sun, and decomposition takes place with as great, or even greater facility, than in those places where no stagnation of water occurs.

From what has been already advanced, it would appear that the principles of vegetation and the causes of fever are intimately connected, and so closely and inseparably allied as to render it highly probable that there is a similarity if not an identity in the nature and causes of both. We know that in general where the principles and requisites of a luxuriant vegetation exist in the greatest abundance, there also fever, as an endemic, is apt to prevail. Heat and moisture are essential to putrefaction, and the consequent production of vegetable growth. These circumstances are the most conspicuous in the low and marshy situations of hot and tropical climates, along the margins of rivers and creeks, and near ponds of stagnating water; in such places endemic fever also occurs, whilst even in the same region, where the country is high and dry, and in hilly situations above the reach of inundations and the miasmata of the low grounds, swamps, and water-courses, fever, as an endemic, is scarcely known; much less in cold and northerly climates, similarly situated with respect to elevation and dryness. It has been remarked by that judicious and accurate [illegible] Jackson, that the rise and progress of endemic fevers are evidently connected with the different periods of the season. In spring the principle of vegetation is extricated in great quantity, while the capacities of plants are still small; an excess is consequently generated, and this excess extends its influence to a certain distance around. In summer the extrication of the principle still increases, but the capacities of plants having extended in a greater proportion, the means are more adequate, and the excess is actually less. In autumn the growth of plants being completed, while the causes still continue to produce a great extrication of the principle of vegetation, the excess abounds and escapes in a wider circle.

With respect to the physical world one striking peculiarity of hot and tropical climates is the vast luxuriance of the vegetable kingdom, and the countless myriads of animated beings. All nature teems with life. Wherever the land is fertile, but especially near the rivers and water-courses, the oak, the poplar, the ash, the beech, the gum, (nyssa and liquidamber,) the lynn, the sycamore, the hickory, &c. uniting their branches, make a dense shade, impenetrable to the noonday sun; in addition to which, the variety of vines, shrubbery, and undergrowth form a matted thicket, in many places almost impassable to the wild beasts which they shelter and protect. The plants of the summer wither and die with the cold of winter, but no sooner does spring recall the warm and genial breezes of the south, than nature starts into renovated bloom and verdure. Mounting the loftiest trees, the vines, which lately appeared like the ropes and cordage of a navy, soon cover the woods with their luxuriant foliage; the late lanes and opening vistas of the forest are closed and obstructed to the searching eye; a deep and melancholy gloom gives an aspect of solemnity and awe to the uncultivated wilds. Not a foot of ground is left unoccupied; the spaces afforded by the larger trees are filled up by those of smaller growth, and vines, bushes, briars, weeds, and shrubbery of different descriptions contend for the remainder; to all which add the swarms and multitude of flies, mosquitoes, bugs, and smaller insects which find a [illegible] in every leaf, lizards, reptiles, beasts, birds, and smaller animals, which seek the shady covert of the woods, and some notion may be conceived of the prolific nature of a southern clime. From this view of the subject it must be evident that the progressive extinction and decay of animate and inanimate substances, must, when operated upon by a summer sun, occasion a proportional degree of decomposition, and the consequent production of disease. Yet, by the [illegible] and judicious hand of cultivation, these otherwise [illegible] [illegible] disarmed of their baneful influence, and made [illegible] [illegible] and necessities of man. Sir HUMPHREY DAVY, [illegible] on agricultural chemistry, has some useful observations [illegible] subject of decomposition as applicable to manures. "The doctrine of the proper application of manures from organized substances," says Sir Humphrey, "offers an illustration of the economy of nature, and of the happy order in which it is arranged. The death and decay of animal substances tend to resolve organized forms into chemical constituents, and the pernicious effluvia disengaged in the process, seem to point out the propriety of burying them in the soil, where they are fitted to become the food of vegetables. The fermentation and putrefaction of organized substances in the free atmosphere are noxious processes, beneath the surface of the ground they are salutary operations. In this case the food of the plant is prepared where it can be used, and that which would offend the senses and injure the health if exposed, is converted by gradual processes, into forms of beauty and usefulness; the fetid gas is rendered a constituent of the aroma of flowers, and what might be poison becomes nourishment to animals and to man."* It is thus that provision has been made for the regeneration of the fallen leaves, which lie scattered and rot upon the ground, and which, to an ordinary observer, would appear to be lost for ever. It appears from the experiment of BERTHOLLET, that whenever the soil becomes charged with the corruptible and decaying materials of animal and vegetable growth, the oxygen of the atmosphere combines with the mouldering mass, and converts it into carbonic acid gas, the food and nourishment of growing plants. In this manner it is, that by the products of putrefaction the animal and vegetable creations are renewed. Nothing is lost by death; it is but a change of condition, a transmutation of matter. From the mouldering ruins of departed life a new growth arises into existence with all the grace and beauty of renovated youth, and thus the metempsychosis of animal and vegetable beings, as likewise the ancient fable of the phœnix emerging into life from her parental ashes, is chemically true.

"As the endemic fevers of warm climates are produced by heat operating upon corruptible materials, it is obvious that wherever the essential causes, heat, moisture, and corruptible materials exist in the greatest degree, there will bilious and endemic fevers prevail with the most malignant fatality. Such being the facts, we find that the bilious remittent fever is the natural offspring and production of a widely extended country, comprehending in its circle the torrid and a considerable portion of the temperate zones; viz. Africa, the East and West Indies, the South of Europe and Asia, a considerable portion of South America, and its extent and prevalence in various parts of North America are too well known to require to be particularly mentioned here. The more temperate or cool the climate, the less subject will it be to bilious fever, and on the contrary, the hotter the climate, and the more marshy and abundant in putrefying materials, the more subject will it be to this disease. These are truths which may be said to be as immutable as the laws of nature. Was the yellow or bilious fever ever known to exist in the frigid zone? in Lapland, Sweden, Norway, Denmark or Greenland? No; and for very obvious reasons, because the heat of those countries is never sufficiently great or long-continued to produce the necessary degree of putrefaction and decomposition. As we approach the equator, we observe the disease more frequent and malignant, until arriving at the tropics, we there find it existing as an almost permanent endemic.

It is remarked by the celebrated Zimmerman, that exhalations from marshes do not seem to be so noxious in cold as in hot countries, yet malignant fevers occur, as in Zealand. In Germany these exhalations produce tertians, in Hungary petechial fevers, in Italy the hemitritace, and in Egypt and Ethiopia pestilential fevers.

It would be a curious and interesting subject of investigation to trace the gradually increasing malignity of endemic fever from the northern boundary of the temperate to the torrid zone. We should find, that other circumstances being alike, there would be a progressive increase in the severity of the symptoms as we approximate towards the sultry climate of the equatorial latitudes; and that local causes, which, as far north as New-York, would merely give rise to regular tertians, in Georgia and Alabama would produce the higher grades of the bilious remittent. This influence of change of climate in mitigating or aggravating the character of endemic fever, corresponds with the progress of the season in changing the type of local epidemics.

But as it is not my intention on the present occasion to enter into the investigation of the various causes of epidemical diseases, having endeavoured to establish the remote influence of heat in the production, under favourable circumstances, of the endemic fever of warm and intertropical climates, I will advert to the inquiry concerning its agency in giving rise to hepatic affections.

Few, I presume, will question the truth of the position, that bile is secreted much more abundantly in hot and unhealthy than in cold and salubrious climates. This is confirmed by the almost unanimous testimony of those whose experience entitles them to credit and respect, who have written on the diseases of hot countries. Such being the fact, are we not authorized in the presumption that there must be a necessary connexion, similarity, or identity of the causes of this increased biliary secretion and the concomitant diseases of the climate? And from the knowledge which we have of the influence of heat and moisture in occasioning the extrication of miasmata, and thereby giving rise to intertropical diseases, are we not warranted in affirming that these miasmata are essentially connected in the increased and morbid secretion of bile, so remarkable in unhealthy seasons and situations? It was previously stated that one way in which fever operated in the production of visceral disorders, was by causing the indirect debility of the cold stage, and thence, from occasioning spasm, debility, or contraction of the extreme portions of the circulatory system, producing congestion in the liver, spleen, and other viscera of the body. But as in the cold stage of fever all the secretions of the body are in a great degree suspended, although the liver is overloaded and gorged with blood, still, as its secretory action is diminished, we of course cannot suppose that any increased secretion of bile can take place in this stage of the disease. But are we not warranted in supposing that febrific miasmata produce their deleterious effects in consequence of the vitiation they occasion in the fluids of the body? And, as I have already attempted to show that the office of the liver is that of purifying the blood from the redundancy of excrementitious matters which it has acquired in the course of the circulation, we may readily suppose that any morbid vitiation of the circulatory fluids, such as takes place in the endemic fevers of hot and marshy countries, would impose an extra labour and burthen on the liver, and either overpower it by excess of stimulation, or excite its vessels into preternatural action, and thereby give rise to an increased and vitiated secretion of bile. I have already attempted to prove that heat alone, or even sudden vicissitudes of weather, are not sufficient to produce derangements of the biliary secretion. It is true that sudden alternations of cold and heat, may, in common with other parts, procure inflammation of the serous surfaces of the thorax and abdomen, as also of the mucous lining of the respiratory organs, and even of the parenchyma of the lungs; the same cause is also common to rheumatic and inflammatory affections in general. But why, I would ask, is there in unhealthy climates and situations such an exception to the laws of ordinary causation, that the liver alone should so often be singled out as the seat of disease, in general exclusion to the other organs and portions of the system? How can this be explained or accounted for? I will leave it to the reader to determine whether the notions I have ventured to advance in relation to this subject are not more satisfactory, than those which refer hepatic affections and increased secretion of bile to the supposed sympathy between the skin and the liver?

I might here give an account of the influence of solar heat in producing those sudden affections called *sun stroke*, *coup de soliel*, *ictus solis*, *ceriasis*, &c. as also of the more gradual and permanent influence of hot climates in giving rise to the various symptoms of debility in the human system, and the constitutional derangements arising therefrom, but to treat these subjects *in extenso* would exceed the limits I have assigned to this article: a few remarks must therefore suffice. As heat is a stimulus, it is obvious that when intense and long-continued it must contribute to exhaust and debilitate the system. When the body has been for some time enveloped in a high atmospheric temperature, the sensation of heat becomes disagreeable and distressing; the heart and arteries are excited into quicker and stronger action; the fluids of the cutaneous and pulmonary vessels are expanded, and thence a degree of expansion is communicated to the general mass of the circulating system; the animal heat is augmented, and to obviate any dangerous tendency arising therefrom, nature becomes relieved by a flood of perspiration breaking out from the overstrained and relaxed exhalents of the surface. This *calorical* stimulation of the system at length induces a degree of exhaustion and debility, more general perhaps than that occasioned by corporeal labour and exertion. Yet if the respirable medium which we breathe is free from deleterious and morbific contaminations, the refreshment and repose of sleep restores, in a great degree, the exhausted and relaxed energies of the human frame, and winds it up for another day of toil and endurance. Sudden and intense heat, like over-exertion, deranges the functions of the digestive organs, owing to the sympathy of the stomach with the general system, and thence giving rise to impaired digestion, from the more crude, watery, and less elaborated quality of the gastric fluid, resulting from the debilitated condition of the stomach, as produced by its sympathetic association. But the head is also frequently a severe sufferer from the like cause. The increased impetus of blood which takes place to that part, producing over-distention of the vessels, gives rise to head-ache, epistaxis, syncope, drowsiness, and convulsions. A general sensation of languor pervades the system, and there is a great disinclination to muscular exertion. The whole body is relaxed and debilitated, and the mind is enervated and listless. Such are a few of the most obvious effects of exposure to high atmospheric temperature. And it is scarcely necessary to say how strong is its tendency to produce a state of predisposition to be acted upon by any adventitious morbific agent which may be engendered and coexist at the same time.

ART. VI. *Case of Paralysis, successfully treated with Moxas.* By W. T. TALIAFERRO, M. D. of Kentucky.

FEW if any cases of paralysis cured by moxa, having ever been recorded in the American journals, I am induced to draw up an account of the following case, in which that remedy was resorted to with success.

The subject of this case is a lady, aged twenty-one years, who had been affected with paralysis for some time previous to my seeing her, and had been attended by Dr. Clapp, of New Albany, Indiana, who has favoured me with the following history of her symptoms whilst under his care.

"Miss S. was attacked in the early part of April, 1827, with paralysis of both hands, which finally extended to her feet and legs. The palsy was preceded by a numbness, loss of motion, and some pain of the index finger of the left hand. On inquiry, it appeared she had had considerable abdominal derangement for several weeks previous to the access of the paralytic symptoms, indicated by considerable irregularity of the bowels and symptoms of functional disorder of the liver. Supposing the disease sympathetic of abdominal disease, rather than from disorder of the brain, it was treated with mercurial purges and alteratives, occasional emetics, vesicatories, cupping, and ungt. tart. antim. The blisters and pustules from the ungt. tart. antim. were of no apparent benefit. The mercurials appeared to be of service, especially when her mouth was somewhat tender. Vomits were of decided benefit, and the cupping was beneficial, dry cupping almost as much so as when the skin was scarified. Some of the discharges from the bowels were black and glutinous—some worms were discharged. After the excitement was considerably reduced, the nux vomica was used with apparent advantage at first, but soon ceased to be of any benefit, though it was not carried any farther than to produce a slight trembling of the palsied parts. The sal quinine has lately been of service as a tonic. The tinct. sanguin. canadens. M. 9., tinct. opii. M. iij. M. ter in die, seems to be beneficial as an alterative and stimulant—it causes a pricking sensation in the palsied parts; in a larger dose it nauseates. Miss S. was my patient nine or ten weeks, and recovered so far as to enable her to return to Kentucky, her home. I regret much it is not in my power to give you a more particular history of this case."

I was requested to see Miss S. in December, 1828, when her symptoms were as follows:—great debility; total inability to move the lower extremities, and very little or no use of the right arm, and entirely unable to raise her left, or close the hand; loss of appetite; weak, irregular pulse, varying from thirty-five to forty-eight in a minute; tongue thickly coated with a white fur; sickness at stomach; constant pain in the head; obstinate constipation of the bowels; catamenia regular; paralysis of the bladder; extremities cold and much swollen. Believing that the disease proceeded from gastric derangement and torpor of the liver, I made an attack upon those viscera with the following cathartics:—℞. Podoph. peltat. ℈ij.; Cal. ppt. et scammo. āā. ʒj. M. f. pilula No. xxxij. Ordered four for a dose to be taken at bed time—gruel, &c. next morning. The first five or six doses operated well, producing three or four consistent alvine evacuations, dark and fetid; debility increased; no feeling in the feet, or left *index finger.*

on which she had had a paronychia, which had been incised one or two years prior to the paralytic attack. After a perseverance with the pills for eight weeks, without the smallest appearance of a change for the better, the pills were repeated every other night. I then gave the nitrate of silver in pills of half-grain doses and upwards, night and morning:—℞. Argent. nitrat. et Medull. pan. āā. ʒj. M. f. pilulæ. No. cxx.—they operated briskly on the bowels for a few days, and increased the appetite, producing a burning sensation of the stomach, but finally ceased to have any good effect—no affection of the skin, though she had taken three hundred pills. I now began to despair of success, there being greater loss of power in moving the extremities, with increased pain in the small finger of the right hand. I determined, however, on trying the moxa, which is so highly recommended by Baron LARREY, in his Surgical Essays. As soon as I procured the port-moxa, I requested my very intelligent young friend, S. M'ADOW, M. D. to visit Miss S. and in his presence I applied the moxa to the *index finger*, on the middle of the first and second joint, directly over the *escar* caused by the incision for the relief of the paronychia, and continued the application until the whole, (an inch,) was consumed, without the patient being sensible of the smallest pain.

In an hour I applied a second between the fourth and fifth cervical vertebra. Her complaint was now different—said it produced slight pain, at the same time an agreeable sensation, with a gentle glow through the system; pulse accelerated to 79. I directed one drop of the ol. croton tigl. at bed time, and to be repeated every third night. Diet light and nutritious.

1829, *Feb.* 18*th*. Pain in the head; livid blisters over the feet; cold perspiration: costive bowels; pulse 68. Applied moxa to the neck and ankle; cathartic continued. Bilious, watery discharges. The oil produced some pain in the bowels, but operated speedily.

Feb. 22*d*. Symptoms as above. Applied moxa to the neck and left ankle; acute pain in the former, none in the latter.

25*th*. Fever; pulse 98 and small; throbbing in the temporal arteries; bowels continue costive; tingling sensation in the feet; pain in the ankles and forefinger, where the moxa was first applied; feet continues to perspire; no passage without medicine; great difficulty in urinating. Ordered four of the former pills at bed time, and a drop of the oil next morning; applied two moxas over the lumbar vertebra.

March 1*st*. The cathartics produced several consistent and brown discharges; nights restless; pain in the head continues; cold feet; pulse 85 and small; three of the blisters from the moxa slightly suppurating from neglect in applying the aq. ammon. Applied moxa to the nape of the neck and middle of the left arm; ordered sem. sinip. half an ounce, bis in die.

6th. Evidently better; appears rather stronger; appetite improving; bowels more open; discharges more natural; pulse 90, full and regular; urinates tolerably easy; lower extremities cold; cold clammy perspiration on the feet; slight pain in the head. Applied moxa to the right shoulder, and one over the heart, where she complained of acute pain; burns kindly healing; continue the sem. sinip.

12th. Extremities cold; bowels regular. Applied moxas to the neck. Appetite improving; urinates freely and without pain.

18th. Applied moxas, two on the upper part of the dorsum, on each side of the sixth and seventh vertebra. Sleep refreshing.

24th. Pulse 80; tongue clean; pain in the head and back, with some weakness in the latter, when raised in bed; unable to move the lower extremities, or even the toes. Applied two moxas.

30th. Pain in the back; difficulty in urinating since last visit; bowels costive; pulse 89. Applied moxa to the sacrum, two on each side of the spine.

April 6th. Frequent syncope when raised to take drink; blisters on the feet much more numerous and livid; urinates easy; pain in the back lessened; desires the moxa more frequently, said they were really pleasant; tongue clean; slight pain in the head. Applied two moxas to the sacrum.

14th. Restless nights, starting and dreaming; pulse 78, full and irregular; acute pain in the left elbow. Applied two moxas on each side of the humeral processes; great aversion to medicine of any kind, but willing to have the moxa applied daily.

21st. Rests well at night, sleep refreshing; spirits improving; feels stronger; pain in the head lessened; tongue slightly furred. Applied moxa to the sacrum; ordered four pills; burns healing.

29th. Sleep refreshing; pain and swelling in the arm lessened. Applied moxa to the sacrum. Pain in the back removed; urinates easy and copiously; cold extremities; tongue moist; appetite improving; sat up to-day one hour in bed.

May 7th. Pulse 85, quick and small; sat up to-day half an hour in an arm-chair; considerable improvement; natural feeling returning; complains of the moxa; slight pain in the temples; swelling in the feet subsiding, and blisters also disappearing; countenance cheerful; sanguine of a speedy recovery. Friction with the flesh-brush to the body and extremities.

15th. Miss S. informed me to-day that she had had severe pain since my last visit, in the left knee, with numbness and pain in her feet; acute pain in her left breast, directly under the mammæ; head clear of pain; sat up all day for several days past; can stand alone; bowels open, and urinates with ease. Applied two moxas to the sacrum.

20th. Her mother applied moxas over the great sciatic nerve, and it was with great difficulty that she bore it; almost clear of pain.

25th. Pulse 76, full and regular; tongue clean; appetite good; bowels open; fond of beef steak; allowed any kind of diet.

June 7th. Rode out to-day two miles; pulse 85; no pain in hip or knee; appetite good; sleep reviving.

18th. Continues to mend. Applied two moxas.

28th. Still improving; walks about the house up and down stairs without assistance.

July 8th. Pulse 85; no pain; moxas almost insupportable, produces sweat and flushing of the face; bowels regular.

16th. Spirits fine; gaining flesh; burning in the feet; blisters disappearing; sweat subsiding, and warmer.

24th. Stronger to-day than for the last two years; pulse 80, full and soft, complexion red; bowels regular; tongue clean: slight pain in the left knee. Ordered two moxas; appetite fine, and sleep undisturbed.

30th. Rides out daily; pain in the knee removed; clear of all pain in the head; feeling in the feet and hands nearly natural.

July 1st. On a visit to Mayslick, distance ten miles; can walk some distance without fatigue.

August 12th. Slight pain; requested Dr. Sharp to apply the moxa, for fear of a recurrence of palsy, which she bore with great difficulty.

Oct. 9th. Very much improved. Her mother informed me to-day that her bowels are regular, that she urinates with perfect ease, and is in better health than she ever was in her life.

Jan. 21st, 1830. At this time she is in the enjoyment of good health, weighing forty or fifty pounds more than she did, January, last. No symptoms of numbness or pain. Miss S. resides seven miles from this place.

I have used the moxa successfully within the last fourteen months, in two other cases of paralysis, both men, one aged seventy-six, the other thirty-four.

Washington, Mason County, Ky. Jan. 25, 1830.

ART. VII. *Of the Pulse and its Modifications.* By S. JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

THE pulse has engaged the attention of medical practitioners from the earliest periods of the science, and has deservedly been regarded as furnishing, in the exploration of the human system, the most important symptoms to determine its healthy or pathological condition. The study of the pulse created the sphygmic art; but in the absence of a correct theory of the pulse, that might have restrained the illusions of fancy, a large proportion of what has been written on this subject, is to be set down to exaggerated pretensions, empirical vanity, and fallacious experience.

A theory of the pulse must of necessity be engrafted on, and be modelled after, the theory of the circulation, of which it is a phenomenon. Before the discovery of the circulation, the nature of the pulse was unknown, and ignorance in this respect led to the adoption of many erroneous notions. A great number of pulses were supposed to exist, and every morbid affection to be infallibly indicated by them. At this day, equal extravagances prevail amongst the Chinese, who possess a doctrine of the pulse which is artificial and complicated in proportion to their ignorance of the circulation, and the real nature of the arterial pulsations. The history of the pulse, strikingly illustrates the remark, that without a sound theory, observation and experience most commonly confirm errors, and establish delusions.

The discovery of the circulation, by imparting correct opinions of the character of the pulse, overthrew the system which had been erected on bare hypothesis. Though the idle pretensions that had been claimed for the indicative character of the pulse, were very considerably reduced, still, the immaturity of knowledge in that respect, gave rise to other notions not less devoid of accuracy. The new principles of indication founded on the pulse, were rather a change of errors than a discovery of the truth.

The present doctrine of the circulation, which makes it to consist of two distinct orders or kinds, executed by different structures, and moved by different forces, produces an entire modification of the doctrine of the pulse, and enables us to give a positive explanation to the various phenomena it manifests, and to estimate their real value as diagnostic and prognostic signs.

The view of the circulation we adopt is its division into, 1st, a vascular or direct; and 2d, a capillary and parenchymatous or interstitial circulation. To the first, belong the heart, arteries, and veins; to the second, the reticulated, interstitial, and parenchymatous texture of the organs. This last is constantly permeated by a certain quantity of fluids, in definite proportions for each species of tissue, which belongs to the tissue as a part of its organization, and hence may be termed *organic fluid* or *humour.* All the phenomena of life are the result of the mutual action of the molecules of this fluid, and the molecules of the solid or organic structure on each other. Constantly undergoing mutations, it requires an incessant renewal, and for the purpose of its renovation is the vascular circulation provided.

The capillary system thus derives its supply of arterialized, or oxygenated, or proper nutritive humour, from the vascular system; it returns back into the vascular system the molecules unfitted for the actions of vitality.

The vascular system is a system solely of supply to the capillaries. Its moving power is the heart. It communicates with the capillaries, placing at their disposition oxygenized or arterial blood, which they attract into themselves in each organ, according to the immediate wants of the organ, and the activity of its actions or excitement. The two orders of vessels, *arteries* and *veins,* composing the vascular system, have a two-fold communication with each other; a direct communication, the artery changing into a vein, and an indirect, through the capillary system.

The force moving the capillary circulation, resides in the capillaries, and belongs to the organized structure. Its nature is not yet satisfactorily developed, but many facts appear to indicate it to be an electro-galvanic power directed by the agency of the nervous system.

Of the vascular circulation, the pulse is an absolute indicator, pointing out its condition in a positive and direct manner. It does not respond as immediately to the various states of the capillary circulation; but as this last exercises a controlling influence over the vascular circulation, aided by induction and a comparison with other symptoms, the pulse indirectly exposes the condition of the capillary and areolar circulation.

The pulse is caused by the shock communicated to the whole mass or column of blood contained in elastic vessels, *(the arteries,)* by the contraction of the ventricles. The vessels opening into the ventricles, and the blood being a continuous mass, in a natural state, completely occupying the cavities of the heart, vessels, capillaries, and parenchyma or areolar texture of the organs—when the ventricles contract, the blood they contain is forced into the arteries, and the sanguine column included in these vessels, receives a simultaneous impulse in every portion. The pulse is not, consequently, produced, as was long supposed, and is still conjectured to be, by a succession of waves following each other through the vessels. It is every where synchronous, and the diastole of the arteries corresponds with the systole of the heart. SPALLANZANI, in examining the action of the vessels, expressly remarked, in several of his experiments, that the pulsation in the aorta, the mesenteric artery, and its smallest ramifications, was instantaneous. "The aorta," he observes, "when the heart contracted, swelled up at once from its origin to its termination." And although from his notion of the circulation he supposed "the pulsations must occur in succession," yet he acknowledges as the result of his numerous experiments, "that at the very moment the heart contracts, the aorta and the whole of the arterial system seem to beat at one and the same time."

It has been a subject of dispute whether the arteries experienced a dilatation in consequence of the impulse communicated to the blood by the contraction of the ventricles. A very slight dilatation certainly does occur, though much less than was formerly supposed, or might be believed, from observing superficially the pulse. This point appears to be very accurately settled by the experiments of SPALLANZANI, PARRY, and POISEUILLE.

Three circumstances govern the pulse; of which it furnishes the indications: 1st, the frequency or slowness, force and rythm, or order of the ventricular contractions; 2d, the quantum of blood actually contained in the vessels or proper vascular system, which is governed by the state of the capillary and areolar circulation; and 3d, the state of the arteries.

1st. The pulse depending so much on the action of the heart, partakes of all its aberrations from the natural state, and these deviations are the consequence of idiopathic affections of the heart, or of its sympathetic disorders. The last are the most common, for the diseases of acute, and most [illegible] those of chronic irritations, extend their influence to the heart, and involve it in the morbid condition.

The modifications of the pulse arising from the contraction of the heart, are those affecting its frequency, slowness, force, and rythm or mode of pulsation.

Frequency of the pulse is the most constant and certain symptom of an existing irritation in the organs. Whenever the heart experiences irritation, either sympathetically or primitively, its contractions are quickened, and so long as a frequent pulse continues, whatever may be the improvement of other symptoms, we should always suspect a lurking inflammation, and endeavour to exterminate it.

The diminution of the frequency of the pulse, in acute diseases, is uniformly a favourable sign, while its persistance is as positive an evidence nearly of the continuance of the disease. In convalescence from gastro-enteritic fevers, after the perfect reinstatement of the alimentary organs in their healthy state, I have frequently found the frequency and irritation of the pulse continue, and every attempt to increase the diet or invigorate the patient by tonics, to be attended with febrile excitement. The irritation of the heart in these cases, at first merely sympathetic, had become established permanently, and did not terminate with the cessation of the primary irritation. It is to be overcome by local depletion from the cardiac region, blisters to the same part, small bleedings, and restricted regimen. If neglected, organic disease of the heart will sometimes succeed, or the patient be cut off by dropsical effusions.

Frequency of the pulse may be combined with its force and fulness, but they do not necessarily accompany each other.

The contractions of the heart, in the majority of persons, average from sixty-five to seventy in the minute; above that number, the pulse is said to be frequent. It often mounts as high as one hundred, one hundred and twenty, and seldom beyond one hundred and fifty in the minute.

When the contractions of the heart are very feeble, from the emptiness of the vascular system, they increase in frequency, as though the deficiency in the quantity of the blood circulating, was to be compensated by the increased velocity of the circulation. It is scarcely possible to mistake the frequency of the pulse from this cause, for the frequency produced by irritation. It is always attended with extreme weakness of the pulse.

Quickness of pulse differs from frequency; it has reference to the time of each pulsation, and depends on the systole of the heart being performed with a rapid contraction. Most commonly it accompanies frequency of the pulse, and is an evidence of existing irritations. The frequent pulse of exhaustion is generally a quick pulse.

Slowness of pulse is usually employed as opposed to its frequency, and expresses the fewer number of pulsations than is usual in a given time. Rareness or paucity of pulse would be a more correct designation, to distinguish it from slowness, as contrasted with quickness. The diminution in the pulsations of the heart, manifests the absence of irritation in that organ, or its declension, if they had been previously frequent. Rareness or paucity of pulse accompanies at times a full and strong pulse, particularly in the congestions of the cerebral organs, and is also an attendant on a small and feeble pulse, especially in chronic diseases, attended with serous effusions. It is produced by digitalis, and appears to be a specific action of that remedy, diminishing the irritability of the heart, and consequently the number of its contractions.

Slowness of pulse, as opposed to its *quickness*, has relation to each pulsation. It arises from the same causes as rareness of the pulse, a state of ab-irritation or asthenia of the heart or mobile organ of the circulation, and sometimes of the softening of its parietes.

A strong or forcible pulse proceeds from the energy of the ventricular contractions. Most commonly it belongs to a fulness of the vascular system, or plethora, and manifests excitement and vigour in the heart. It attends on hypertrophy of the left ventricle.

A feeble pulse marks, in most instances, a low state of excitement in the heart, and indicates exhaustion of the vascular system. It may be accompanied with slowness or frequency. In carditis and pericarditis the pulse is said to be feeble, which then proceeds from the disability of the ventricles to contract, like other muscles, when they or their sheathes are in a state of acute inflammation.

The last modification of the pulse emanating from the heart, relates to its rythm, or mode of action. In this respect, the pulse may be equal or regular, unequal or irregular, and intermittent. In a regular or equal pulse, all the pulsations are similar; a pulse is unequal or irregular, when the pulsations do not correspond to each other in frequency, quickness, and force; a pulse is intermittent, when, after several pulsations, there occurs a momentary repose. These conditions of the pulse proceed from different modes of contraction of the ventricles. The irregular and intermittent pulses belong to organic diseases of the heart, and occur also in acute diseases, from sympathetic disturbances in that organ, which, I am disposed to believe, are only excited by irritations of the digestive organs. At least, I do not recal pulses of that character in the diseases of other organs, except of the heart itself. The irregular is a more unfavourable than the intermittent pulse. I have known instances in which an intermittent pulse was natural to the individual; it continued for years, and during the enjoyment of good health.

2d. The capillary system modifies the pulse, as to fulness or emptiness, by determining the quantity of blood contained in the vascular system, and regulates, in these respects, the state of the direct circulation. This last supplies the capillary system, which attracts from the arterial and withholds from the venous vessels the proportion of blood it requires, determined always by the state of its excitation—the vascular or direct circulation is governed, as to repletion or vacuity, by the state of the capillary circulation in the different organs. Fullness or emptiness of pulse are, then, indications of the condition of the capillary circulation. These states of the pulse are produced, however, under particular circumstances, and in a manner requiring to be noticed.

When a limited extent of the capillary system is engorged with blood, as occurs in irritation and inflammation, the circulation of the congested part, is sluggish or suspended, and the portion thus affected, ceases to admit further supplies for the time, from the artery conveying the sanguine humour to it. The amount of blood which previously passed into the capillaries, is now accumulated in the artery, and passes into the veins exclusively by the direct communication, existing between those vessels. They are consequently replete with blood—the artery, completely distended, is full and hard, and it more perceptibly manifests the momentum of the heart's contractions. This I regard as the correct explanation of the full, strong pulse, felt in the arteries supplying an inflamed part, as in the radial artery, in very acute inflammation of the hand.

Inflammation of the brain or meninges with light congestion, produces the same effect in the carotid arteries; and to a greater extent, the same circumstance is observed in the extreme congestions of the brain, as in apoplexy. In these last cases, the pulse of the whole vascular system, is full, strong, and often slow. The degree and extent of the congestion, which occupies the external as well as internal capillaries of the head, arrests the capillary movements, and of course the demand of these organs receiving in a natural state, as is estimated, an eighth of the whole circulating fluid, while the general torpor of the capillary system throughout the economy, which attends on this disease, diminishes, in some degree, the call made on the circulating fluid. The vascular system, in consequence, acquires a repletion of blood, the vessels are distended, the pulse full and strong; and as no irritation exists in the heart, its contractions are slow.

Precisely the reverse is the effect on the general or vascular circulation and pulse, of irritation in the extensive membranous tissues rich in capillaries, and in capacious organs of highly vascular structure, producing in them profound congestions. The quantity of blood these organs and tissues are capable of containing, and which, under the influence of irritation they abstact and withhold from the vascular system, is so great as to reduce the general circulation to a state of extreme exhaustion. A small deficient current flows through the arteries and returns immediately by the veins. The heart in a state of asthenia, contracts with feebleness on its half distended cavities, and the pulse is scarcely to be perceived, and sometimes is entirely absent, when the volume of blood is not adequate to bring the elasticity of the arterial coats into action.

In the commencement of irritations of the internal viscera, especially of the digestive or alimentary organs, before reaction, or the irradiation of the irritation into other organs has ensued, the capillary and areolar circulation of the external surfaces is diminished, the capillary circulation concentres towards the seat of irritation, where the blood accumulates and is detained until it is dispersed by the establishment of reaction. This concentration of the circulating or nutritive humour in a portion of the capillary system, forms the cold stage of fevers, and is the essential condition of visceral congestions, which have formed so prominent a feature of late in some systems, though their mode of production was not understood. Its direct effect is to abstract blood from the vascular system, equivalent to a depletion, and the quantity of blood of which the vessels are deprived, is proportioned to the intensity and extent of the concentric movements of the capillary circulation, and degree of congestion induced; it is often equal to the abstraction of many pounds of blood. Hence arises, in this state, the weak, feeble pulse, a sign of debility in the contractions of the heart, and emptiness of the vessels.

The same result, as to the vascular circulation and pulse, is produced by extensive irritations of the cutaneous surface, determining sanguine congestion of its capillaries. This state exists in the eruptive fevers, or exanthemata, when of a high grade, and which are then attended with a weak, empty pulse. Scarlatina, when of intense character, as in its malignant form, is a remarkable illustration of the fact. The disease, in this state, exhibits the skin from the head to the feet of a deep red, demonstrating the actual presence of red blood in the skin, in a quantity entirely unnatural. The internal mucous tissues, in this malignant form of the disease, is shown by dissection to be in the same condition. Here then is presented the occular demonstration of the permanent congestion of the cutaneous capillaries, the detention of a large quantity of the circulating fluid in them, and its consequent deprivation from the vascular system. Now, in this form or stage of scarlatina, the pulse is always deficient in fulness and force, and in the highest grades of the disease, the pulse is reduced to such extreme exility, it is scarcely distinguishable.

This feeble, empty pulse of scarlatina maligna, has been supposed to be the consequence of extreme debility of the vital powers, and to require the sustaining energy of stimulants and tonics. I have never witnessed from their employment, more, even when lavishly administered, than a transient effect on the circulation, and by augmenting the morbid irritation of the cutaneous and mucous surfaces, and thereby confirming their congested state, they have increased the vascular exhaustion, and have enfeebled to a greater degree, the action of the heart and pulse. Cold or tepid evaporating ablutions, used according to circumstances, by diminishing the cutaneous irritation, relax the capillary congestion, the blood resumes its natural course into the vascular system, which fills up and expands, and the pulse acquires fulness and firmness. I have seen, in scarlatina, the pulse, as ablutions were employed or discontinued, become alternately full and firm, or empty and feeble. In rubeola or measles, when malignant, and in confluent small-pox, the exhaustion of the vascular system, and extremely small and feeble pulse, are produced in this same manner.

This principle, which I consider as of the highest importance in a practical view, when fully appreciated, has a very extensive application; and it places in a very clear light, the important fact, that a patient, in irritations of great activity, is threatened at the same instant with impending dissolution, from opposite conditions of his organs—that is, from extreme feebleness and exhaustion of the vascular circulation, and violent congestive irritation in the capillaries of the cerebral, pulmonary, or abdominal viscera, suspending their functions. It exhibits also the necessity, under those circumstances, of resorting, at the same instant, to a compound and opposing treatment, explains the objects to be attained by it, and the manner in which it is to be directed.

3d. The arteries modify the pulse, when they are themselves in a pathological state, to which they are subject, as well as the other organs of the economy. Acute inflammation, as in arteritis, causes firmness in their coats, and the pulse is then hard. The inception of ossification renders the pulse obscure, and when it is complete, the artery losing its elasticity no longer responds to the shock communicated by the heart, and the pulse is lost. The coats of the arteries, in some instances, are softened from a species of infiltration of fluid into their interstices, which lessens their elasticity and impairs their power of reaction.

The calibre of the artery has an influence over the pulse. I have seen, in a case of dilatation of the heart, all the arteries preternaturally small, and which produced a remarkably small pulse. Undue enlargement of the arteries is not uncommon. The pulse, in a normal state of the circulation, is then large and full, and under excitement, is exceedingly deceptive. It appears to indicate profuse and repeated bleedings, but fails with rapidity under sanguine depletion, assuming a peculiar yielding and flaccid sensation, as though the vessel contained a gaseous or exceedingly tenuous fluid.

The pulse in many individuals is very feeble; it is scarcely discernible. They enjoy, notwithstanding, excellent health. The energy of life does not depend on the force and velocity of the vascular or direct circulation, but on the activity of the capillary circulation. Persons who are prone to obesity, have usually a small and feeble pulse. It is a common explanation of the fact, to attribute it to compression on the arteries from the accumulation of adipose matter. This is not correct; the arteries and whole vascular system in such persons, is not developed to the same extent as in others, and the vascular circulation is more inactive.

The pulse is in some instances entirely absent, without interfering with health. This circumstance occurred in the mother of Dr. S. of this city. The pulse disappeared during an attack of acute rheumatism, which did not appear to retard her recovery, and it never returned during her subsequent life. She was active in mind and body, and possessed unusual health. In no part of the body could a pulse be detected. I attended her during a part of the time of her last illness, which was an acute inflammation of the intestines, but no pulse existed. She died while I was absent from the city, and an examination was not made to elucidate the cause of this remarkable phenomenon.

A great variety of pulses have been described by writers, who have drawn between them fine lines of discrimination, and attempted to establish a particular pulse for every disease, and for every critical symptom, the occurrence of which, it was believed, could be predicted with certainty, or whose existence could be announced merely by the pulse. By the late Professor RUSH, the pulse was regarded as a perfect nosometer, measuring with nearly absolute precision the state of the whole economy, and the grade and character of every morbid condition.

These exaggerated views of the importance of the pulse, originated before the circulation was discovered, and the production and nature of the pulse was known. They were subsequently maintained by erroneous opinions of the character of the circulation, its active forces, and the structure and office of the vessels. The direct circulation alone was understood, the capillary, and interstitial or parenchymatous were not comprehended, and the heart and large arteries were believed to be the sole causes of the circulatory phenomena. But if the doctrine of the circulation we have advocated, founded on the analysis of the organs and mechanism of this function, be adopted as correct, it must be clear, that the pretensions claimed for the pulse, as a universal diagnostic standard, must be considerably reduced. As a positive indicator, it characterizes only the action of the heart, and the degree of repletion of the vessels. The state of the capillary circulation, and consequently of the organs of the economy generally, is not manifested directly by the pulse, which in the determination of this point, is of secondary importance. For this purpose it is to be taken in connexion with the symptoms exhibited in the disturbances of other functions, and compared with them. The heart sympathizing in most cases in the morbid affections of all the important organs, and the circulating fluid being influenced in its distribution by diseases of intensity, the pulse serves to give the value of the other symptoms, and to render their nature manifest; and it thus furnishes secondarily and by comparison, signs indicative of the condition of the capillary circulation, and the character of the pathological state of other organs than the heart.

From this examination, it then results, that the pulse is not a general nosometer, but, as a standard of disease, is principally confined to the affections, either primitive or sympathetic, of the heart, and of the direct circulation. When, as frequently occurs, the heart and the direct circulation, from a paralyzed or quiescent state of the sympathies, do not participate in the morbid disturbances of the organs, the pulse fails entirely in presenting any positive indications of the state of those organs or the nature of the affection.

The forces regulating the direct and the capillary circulation being distinct, and the offices of the two being totally different, they are often placed in a state of antagonism, and exhibit phenomena of opposing characters. The pulse in these circumstances, while it faithfully marks the precise condition of the heart's action, and the state of the circulation, would betray us into fatal errors, if it were consulted in order to determine the condition of other organs. In the congestions of the abdominal and thoracic viscera, the functions of those organs are oppressed with a load of blood, while the heart is barely kept in action from the extreme deficiency of that humour in the vascular system. In the close also of diseases of acute inflammations, widely diffused throughout the economy, important organs are pressing on to disorganization, demanding local depletion, and other sedative measures, with revulsive operations, while the action of the heart is fainting from debility, and requiring to be sustained by diffusible stimulation. These opposite indications cannot be revealed by the pulse. They are to be determined by other signs, and a reliance on the pulse, in the manner that has been taught by high authorities, as a guide in estimating the condition of the economy, and in directing remedial measures, will lead to wrong conclusions, and a practice often fraught with mischief.

ART. VIII. *Observations on Hematosis, with two Cases in which this Function was imperfectly performed.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

FROM the complicate structure, diversity of organs and functions, the number of elementary principles, and differences of active forces, existing in and composing the animal organism, any exclusive doctrine in explanation of its diseases must of necessity be replete with errors. Hence exclusive humoralism was necessarily wrong, as it neglected the solids, by which most of the vital phenomena are made manifest. Exclusive solidism is no less false, as it overlooks the fluids or humours which are organic, and are as essential to vital actions and phenomena as are the solids. While partial and exclusive views thus regulated the principles of medicine, the science was in a state of constant vacillation between the two systems mentioned above. Neither being true exclusively, and both containing many truths, neither could satisfy all minds, yet each could enlist strenuous advocates, equally convinced of the correctness of those principles they did espouse.

There is this difference, however, between the ancient doctrine of humoralism, and the modern. In the first was admitted many supposititious humours, and qualities were appropriated to them entirely hypothetical. In the modern doctrine, the humours are analyzed, and the part each plays in the organism is examined with rigorous induction. There is no other analogy between the two than the bare name.

The most important of the humours is the oxygenated, arterialized, or sanguine nutritive humour. Though apparently homogeneous, it consists of different principles, which vary in their proportions in different individuals, and in the same individual, at different periods and under different circumstances. Concerned in every vital phenomenon, the states or condition of this fluid exercise a most decided and profound influence over the organic and functional actions of the organs; modify the nutrition, and consequently the state of the solids; impress a peculiarity on the individual; and diversify the actions of morbific causes, the symptoms of the diseases they develope, and the operation of remedial means.

The principal proximate elements of this humour, are water, albumen, which dissolved in water constitutes serum, fibrin or globules, hematosine or colouring matter, a number of saline principles, and some of the principles of the different secretions. It contains, besides, many accidental matters, introduced into it in various manners. Now, the varying proportions of the above essential principles of the blood, will produce the modifying effects in the organism and its functions precedingly indicated.

A moment's reflection on the part performed by this humour in the actions of the economy, and its liability to variation in its component principles from the qualities of the food, of the atmosphere, of habits of life, the state of the digestive and secretory actions, must produce a deep conviction of its importance in every pathological action. It is a matter of lively surprise, not only that this element of the pathological condition receives from physicians generally an entire neglect, but that any could be found to question its concurrence in the production of disease and modification of symptoms.

The secreted humours appear at this time to attract the entire attention of a large body of practitioners, whose sole object is to expel them from the bowels, and, like PURGON, *nettoyer les corps et en evacuer entièrement les mauvaises humeurs*. The whole practice of physic may be comprised, according to this system, in the universal prescription, with one alteration, of ARGAN, in the laughable satire of Moliere on the profession:—

Calomelas donare,
Postea seignare,
Ensuita purgare,
Resecignare, repurgare, et recalomesare.

Of infinitely more importance is it to appreciate and determine the state of the mucous surface of the primæ viæ and appendant organs, the immediate cause of the secretions, than to occupy the attention with the secretions themselves. These are much more harmless than is supposed. Nature finds but little difficulty in getting rid of them. The product of a certain condition of the secreting surface, they bear most generally a relation to that condition, whether it be natural or pathological, and when the two are in the same relationship, the secretions, however morbid, cannot react injuriously on the organs.

But far otherwise is the case with the means employed to expel these morbid secretions. They are seldom in relation with the surface on which they act. Their action too is not in antagonism with the pathological state, but is of the same order—and it is not possible beforehand to pronounce positively that the therapeutic malady will supplant the pathological; that it will not act in the same line of march with the diseased action, and thus press it on in its destructive tendency. There are other means of equal potency, and of perfect safety, in changing the actions of the solids or organs, and thus effectually restoring the secretions to a healthy order. These for their simplicity, are despised by the PURGONS of medicine, who, ignorant of their mode of operation and of action, cannot conceive, that means which do not convulse the organs by their perturbating powers, can operate a salutary influence. This notion is of equal accuracy with that, which would attribute to nature no other remedy for the impurities of the atmosphere than a tornado or hurricane.

It is not, however, the actions of the solids or organs alone, important though this consideration certainly may be, that should fix the regards of the practitioner. Every element of the pathological action should be embraced in the extended scope with which he surveys its various conditions. Of these, the state of the sanguine nutritive organic fluid or humour, holds a primary rank, and for the accurate determination of every pathological problem, its distribution amongst the organs, the proportions of its proximate elements, and the accidental qualities it may have acquired, should be subjects of investigation, and as far as our knowledge will admit, be positively ascertained.

It is not the object of this paper to enter into an elaborate exposition of the doctrine of humoralism, founded on the nature of the organic fluids, and their offices in the economy, or to vindicate its application to the pathology of morbid actions. My design is simply to indicate a condition of the nutritive sanguine humour of frequent existence, as annually, cases of it fall under my observation, which presents peculiar characters, gives origin to certain symptoms, and which modifies those belonging to different diseases, in a manner to lead to most serious errors as to their nature.

A deficiency or excess of blood, it is well known, may exist, constituting *anemia,* and *hyperemia* or plethora, and be productive each of peculiar phenomena. But a deficiency or excess of some one of the different elements of the blood may also prevail, and be the cause of particular states of the economy, or generate special symptoms, amounting to a pathological condition. In the highly marked lymphatic temperament, the watery and albuminous principles predominate over the fibrinous or globular and colouring elements, and modify in consequence the phenomena of disease. The highly sanguine temperament presents the opposite extreme, and fibrin or globules, and the colouring principles are in excess, equally impressing a peculiarity on morbid phenomena. The circumstance, however, to which I now wish to attract attention, is the *sudden* diminution, amounting almost to a disappearance of the hematosine or colouring principle of the blood.

The nutritive sanguine humour is formed from the nutritive principles furnished by the aliment, which are concocted into blood by the various processes through which they pass. In what manner hematosine or the colouring principle is formed, what organ is charged with its production, or what is the process creating it, we have no knowledge. Respiration appears to have some agency in its formation, yet this function may rather be presumed to perfect the process of its production, than to form it exclusively—for in the instances in which this principle was deficient, which have met my observation, respiration was wholly unimpaired.

The following cases are selected from a number that have been presented to me in the course of practice, as exhibiting the phenomena characteristic of the affection in a very striking manner.

Case 1st.—Miss M'C——, aged nineteen, lymphatic temperament, hair of light brown, eyes a light gray, complexion fair, full embonpoint, skin soft and of delicate texture, limbs round and smooth, chest expanded. She has enjoyed uniformly good health—menstrual function commenced without difficulty, and has continued until the present period, uninterruptedly, though always very slight. She is attached to a choir of one of the chapels in the city, and having a very good voice, exercises it frequently in singing.

In November, 1829, she exerted herself, on an emergency, more than usual, though always active and very industrious, in finishing some dresses. Her zeal led her to take but little rest for three successive nights. In her employment, she uses a press, which requires considerable effort, and was, in consequence, very much overcome with fatigue.

From this period she began to notice that slight exercise produced unusual lassitude and fatigue, excited palpitations of the heart, a throbbing, obvious to the eye, above the sternum, and on the right side of the neck, and caused a sense of beating in the head, and through the limbs to the ends of her fingers. These symptoms continued to increase, and the pulsation above the sternum and on the side of the neck, became permanent, although feeble when she was sitting. The augmentation of the symptoms finally arrived to such a degree as to prevent all active exertion, and in the commencement of January last, I was requested to take charge of her case.

I visited her on January 4th, 1830. As she had been perfectly quiet, nothing could be observed but a sallowness of complexion, and a slight throbbing above the sternum and right clavicle. I explored the chest with the stethoscope. The respiration was clear and distinct in every region of the thorax; indicating, as might have been expected, from her finely expanded chest, an admirable pair of lungs. The rithym of the heart was natural—the impulse rather strong, and sound somewhat louder than usual, but not to an extent that could be regarded as morbid, or belonging to organic change. No purring sound, throbbing, or uncommon noise under the right clavicle or superior end of the sternum, marks of aneurism, could be heard. The appetite was excellent; diet too full, meat being taken at every meal; digestion perfect, no kind of uneasiness or oppression being experienced after eating; bowels perfectly regular and evacuations natural. The menstrual discharge which had declined rapidly since the invasion of the present symptoms, had not returned at the last period, the first of the month. The tongue was clean and moist, but was *without colour, as were the lips, gums, and inside of the mouth; the pavilion of the ear, when held to the light, was nearly diaphanous.* When quiet, she experienced not the slightest inconvenience, and would not, she remarked to me, be conscious of any thing unusual in her situation.

I now requested her to ascend a flight of stairs and return. On entering the room she threw herself into a chair, with an exclamation that "she was nearly gone." She exhibited a picture of exhaustion. Her limbs hung relaxed, her head fell on her shoulder, she panted violently for breath. The throbbing above the sternum and on the sides of the neck was violent, but strongest on the right. The heart palpitated excessively—its contractions were tumultuous so as not to be counted, and were sharp and strong. This state continued about five minutes, when it began to decline, and gradually terminated. I examined with great care the right clavicular region, to discover the existence of a tumour, and though the pulsation was very distinct to the feel, yet nothing like a tumour could be detected.

From a review of the case I could not arrive at a satisfactory conclusion. I was strongly disposed to regard it as an aneurism or dilatation of the aorta, at its arch, or of the innominata. It resembled in many respects the cases of aneurism recorded by Mr. **Wardrop**, especially his fourth case. Yet it exhibited many features of anemia; but as no losses of blood had been sustained, the symptoms could not well be attributed to that cause. In this uncertainty, I limited my directions to a reduction in some degree of the diet, to take a mild cathartic, and to keep perfectly quiet.

The symptoms continued without abatement, and having a consultation with a friend who is engaged in surgical practice, I invited him to examine this case. After an attentive observation of the phenomena it presented, he was decidedly of opinion, that an aneurism of the aorta or innominata was the cause producing them. On the 10th of January, acting on the impression of the existence of an aneurism, I directed VS. to ℥x. with an abstemious diet.

The next day, 11th, all the symptoms were greatly aggravated. She was now scarcely able to leave her chair; every attempt to walk about the room excited panting and palpitations; the throbbing in the neck was more violent, and it was with difficulty she was got up stairs to bed. *The blood drawn consisted almost entirely of serum, the crassamentum being very small.* To relieve the urgency of the symptoms, warm wine whey, with a calming potion were ordered. I had no longer a doubt, from the result of the bleeding, that the case was one of anemia, or what is nearly of the same nature, a deficiency of the fibrin and hematosine of the blood. The following powder was prescribed; phosphas ferri, gr. v.; sulph. quinæ, gr. ss. every four hours; the diet was made more generous.

January 14*th.* Symptoms diminishing; palpitations lessened. Powders continued.

January 21*st.* Throbbing in the neck and above the sternum has diminished very considerably; she can now ascend and descend the stairs without the distress and faintness formerly experienced, though palpitations continue to be induced. Continue powders.

January 28*th.* Progressive amendment; menstrual discharge returned; colour returning to the cheeks, lips, and tongue. Continue treatment.

February 10*th.* Symptoms have entirely disappeared; complexion restored to its usual healthy aspect. Was last night at a dance, and experienced no inconvenience from the exertion. Omit the treatment.

March 10*th.* Health continues perfect; exercises daily, and suffers from none of the former symptoms.

Remarks.—The symptoms of the above case would probably be accounted for by many as nervous. But this term, unless it be defined and a positive idea attached to it, is no explanation of the phenomena, and can give no clue to a plan of treatment. It is not probable that they had their origin in the nervous system, for the mind and feelings were perfectly tranquil. The subject of the case is a girl of excellent sense, has never shown any tendency to a morbid sensitiveness of nerves, and moral impressions produced but slight effect in exciting the symptoms. Besides, we do not know that nervous affections, as they are termed, can occasion the disappearance of the hematosine or colouring principle of the blood.

Taking a review of the whole of the preceding case, it appears to me evidently to have depended on a morbid alteration in the proportion of the constituent elements of the blood—the fibrin and hematosine or colouring principle being deficient.

Case 2d.—Mrs. ——, aged twenty years, temperament highly lymphatic, large frame, flesh soft, skin of a bloodless white, hair and eyes light colour. Grew up rapidly, menstruated without difficulty, enjoyed good but not robust health until spring of 1827, when she was attacked with chronic pneumonia, that threatened for nearly a twelvemonth to terminate in phthisis, but which was finally cured. Married in winter of 1828-9; her health since then has been imperfect, though never sufficiently ill to require medical attendance. Became pregnant and was confined in the second week of February, 1830. The accouchement, which was attended on by Dr. J. Moore, was remarkably easy. The two ensuing days she appeared unusually well, but on the third she complained of an incessant noise in her head, which entirely prevented sleep, and which alternated with pain. She was bled, leeched, and cupped in the head, and the bowels were freely evacuated by purgatives, without benefit.

February 21st. I was requested to visit Mrs. ——, in consultation. She continued to suffer terribly in the head, with distressing noise, which ceased occasionally and was replaced with pain; hearing so acute as to prevent sleep; mind not affected; skin, natural temperature, of deathlike paleness; pulse 120, full and large, but having no force; tongue large, moist, and *colourless; lips equally pallid;* stomach quiet; abdomen soft and exempt from pain or soreness; lochia, which had been profuse, considerably diminished. From the extreme distress of the head, and apparent activity of the pulse, venesection was directed, and ℥x. were drawn. The blood presented a *small, loose coagulum, floating in a large quantity of serum.*

No relief was experienced from the depletion; the pulse was more feeble, with equal frequency. Blisters were applied to the ankles, and a calming potion, with sulph. morphiæ and Hoffman's anodyne directed every two hours; *blisters had produced fine vesication, but not the slightest colour.*

February 22d. Some sleep was procured and head was less distressed; pulse frequent, jerking, and empty. A mild tonic prescribed. Evening. Solution sulph. morphiæ.

February 23d. Night had been very disturbed; delirious; voice tremulous; agitation; pulse 160, pulsations tumultuous; head very hot; legs cold; lochia suppressed; no pain; great thirst. Directed hair to be cut close to scalp; bladders of cold water to be constantly applied; warm fomentations to the abdomen and vulva; warm bricks to the lower extremities; tonic withdrawn. Noon. Symptoms on decline. 6 P. M. Symptoms much abated; pulse slower and fuller; thirst lessened; took some chicken water with relish.

February 24th. Had some sleep last night; head very much relieved; cold constantly applied and extremely grateful; pulse slower; feels as if the contents of the artery had no consistency; tongue is very sore and painful; is pallid; papillæ elevated and flat. 1 P. M. Stomach disturbed, vomits frequently; nausea constant. Ætherised potion. 10 P. M. Stomach relieved; has been taking at her own request, water with a small portion of wine; anodyne to-night.

February 25th. Tolerable night; vomiting; nausea constant; pulse feeble, slower. Almond emulsion, table-spoonful every hour. 1 P. M. Nausea relieved. Poultice to vulva which is painful. Anodyne at night.

February 26th. Very tranquil night; head is not troublesome while cold is applied, which has not been discontinued night or day; pulse nearly natural; bowels opened without medicine; intense craving for food, but disgust for whatever is brought to her; cannot make a choice to please herself; is no longer restless.

February 27th. Restless, disturbed night; pulse feeble, frequent, 140, and empty; constant nausea with occasional vomiting; skin cold with whiteness and semitransparency of alabaster. Infus. colombo and wine sangaree; blister to epigastrium. 1 P. M. Infusion rejected by the stomach. 6 P. M. *Blister drawn well, but entirely colourless;* thirst very intense; frequent chills; pulse empty and feeble; hearing painfully sensitive. S. quinæ, gr. iv. to be applied to the blistered surface, and repeated at 8 P. M. 10 P. M. Condition improved; skin warmer; pulse fuller. Sulph. morphiæ, gr. ss.; sulph. quinæ, gr. ij. to be applied to the blister, and repeated in two hours.

February 28th. Comfortable night; craving for food ceased, and replaced by that for fluids. Demand for a pleasant drink incessant, but none that can be thought of satisfies her; took some beer in the night, with an oyster, which provoked several watery stools; pulse weakened. Continue external application of sulph. quinæ; chalk julep to arrest diarrhœa. 6 P. M. Diarrhœa checked in afternoon. 10 P. M. Craving for drinks unabated; pulse increased in frequency; complains of her head; noise returned. Discontinue the sulph. quinæ.

March 1st. Night tranquil; two watery passages; same difficulty with drinks, which are ardently desired; pulse fuller and slower. Brown stout diluted, with soup. 6 P. M. Relishes the brown stout; skin of better temperature, a disposition to moisture for the first time. Blister reapplied to epigastrium. *Blistered surfaces continue colourless;* tongue continues very sore, is covered with a pellicle that is constantly thrown off and reproduced, (maguet? of the French.) Sulph. morphiæ applied to blister.

March 2d. Disturbed night; took some milk punch as well as the brown stout; feels weaker; pulse is feebler; frequent eructations with nausea; thirst distressing; diarrhœa. Abandon all internal stimulants; almond emulsion flavoured with prussic acid; sulph. quinæ, gr. ii. to blistered surface every two hours. 6 P. M. Symptoms improving; pulse regained more vigour; eructations lessened; nausea ceased; skin warmer. Sulph. morphiæ to blister.

March 3d. A good night; tongue in same state; thirst unabated; pulse and skin more natural. Mass. hydrargyri, gr. i. three times a day. 10 P. M. One serous stool. Sulph. quinæ, gr. ii., sulph. morph. gr. i. to blister.

March 4th. Pleasant night; tongue and throat very sore; pulse fuller and skin pleasant to the feel; lips have a slight pink tinge; feels some appetite and took coffee and toast with a relish; cold, at her own request, has been unceasingly continued to her head. 10 P. M. Very much improved: took a longing for pork and cabbage, which she eat with great relish; feels better, pulse fuller and firmer; skin natural; two alvine discharges, serous, but more consistent; poultice to the throat. Continue powders to blister, and pills.

March 5th. Tolerable night; disturbed with uterine pains, which produced discharges of large masses of a gelatinous mucus from the uterus; improving.

March 6th. Slept well; eat breakfast with relish; lips becoming coloured, and blistered surfaces have a faint blush. Continue treatment; throat sore.

March 7th. Copious mucous expectoration; uvula coated with brownish exudation. Gargle of alum water.

March 11*th*. Has continued improving; appetite natural and strong; alvine discharges natural; no strength.

March 20*th*. Been in favourable state; strength does not return; cannot sit up; very pallid; noise of head renewed and is distressing; pulse has no firmness; appetite excellent; bowels regular. Phosphas ferri, gr. v.; sulph. quinæ, gr. $\frac{1}{4}$. four times a day.

March 30*th*. Has increase of strength; sits up occasionally and can walk with assistance; lips have more colour, but are yet unnaturally pallid.

April 5*th*. Is gradually increasing in strength.

Remarks.—In this case the almost total absence of the colouring principle of the blood, is a feature too obvious to be denied. The want of colour in the lips, gums, and buccal mucous membrane; the colourless state of the blistered surfaces, to which blisters were several times reapplied, and which were dressed constantly with irritating substances, are positive evidences of this state. I have never before met with this circumstance to the same extent. No difference was to be discerned between the colour of the sound and blistered skin; the absence of the cuticle alone distinguished them. The blisters notwithstanding drew rapidly and the serous discharge was copious.

The anemic condition, or more properly, deficiency of fibrin and hematosine, is not to be regarded as the essential character of the disease, in this case. It was a modifying circumstance, influencing the character of the symptoms and the treatment. The affection was uterine, gastric, and cerebral irritation, the common consequences of accouchement. The vulva was also severely affected. The movements of the body for several days excited so much pain in this part, that the same position was constantly preserved, and all the evacuations were made into cloths. Notwithstanding the apparent necessity of depletion for the removal of extensive and acute inflammations, the state of the direct circulation and vascular system, entirely precluded this measure, and other methods of controlling the inflammatory actions became necessary. The depressing influence of cold to the head, with the repulsive action of sinapisms, blisters, and heat to the lower extremities, subdued the cerebral excitement and kept it in check. There was no intermission to the application of cold water to the head for ten days. It was so grateful, the patient would not suffer it to be discontinued. The gastric irritation, which was not violent, or excited apprehensions, was trusted principally to cooling and demulcent drinks. The unfavourable state of the circulatory functions, constituted a formidable obstacle. It could not be operated on in the first periods, through the stomach, nor by the rectum, from the tumefaction and extreme soreness of the perinæum and vulva. The endermic medication became here an invaluable resource. The application of sulph. quinæ to the blistered surfaces, invigorated the organs of the general circulation, and what was of equal or of greater importance, gave force to the capillary actions in the skin, manifested by its increase of temperature. This was the operation the most desirable to be procured, as it constituted a powerful revulsive or controlling power, antagonizing the morbid irritations of the internal dermoid tissue or mucous membranes.

This case establishes a principle of considerable importance. It demonstrates that redness is not absolutely essential to inflammation, but depends solely on the hematosine of the blood. The intensity of the colour is not, then, in proportion to the activity of the inflammatory action, but to the quantity of hematosine, or colouring principle present in the blood. When this principle is deficient, as it was in the subject of this case, and as it often is in the highly lymphatic temperament, the colour of an inflamed surface will not correspond during life to the activity of the inflammation, and after death, no trace of it will remain, to indicate the extent of the previous morbid irritation.

About a twelvemonth previous, an elder sister was affected in a manner precisely similar, and the case proved fatal. In that case there had been considerable uterine losses by flooding, and subsequently a continual drain from hæmorrhoids. The anemic condition was attended with gastric and cerebral irritation, but, from the extreme languor, feebleness, and disorder of the circulation, stimulants, and tonics were lavishly administered to maintain the strength. The most distressing state of the stomach was induced—the torments of thirst were unappeasable, while the fluids swallowed were immediately rejected by vomiting. The distress of the head was intolerable, and ended in a partial apoplexy, with temporary loss of consciousness and speech. It would have been happy had it been more complete, and have prevented a death with a long and cruel agony.

In the preceding cases, a deficiency in the process of sanguification or hematosis undoubtedly existed. But they throw no light on the cause of this defect. The process is complicated; it is the associated action of several functions and numerous organs, and derangement in any one of them may render the whole operation abortive. Some of the actions essential to it are performed deep in the organism, appertain to the most obscure and impenetrable of the phenomena of the organism, and hence elude observation. In the first case, several successive days of attentive examination, did not enable me to discover the slightest aberration in the normal action of the organs, to which could be ascribed the peculiar state of the sanguineous fluid. It occurred suddenly in the full enjoyment of robust health, without prodrome, following on excessive exertion, want of rest, exhaustion and fatigue.

A similar deficiency of colouring matter in the blood, is a common circumstance in the chronic affections of the spleen. But I have met with it, in several cases, as well as those above, in which no evidence of the slightest derangement of that organ could be discerned.

It is not an improbable conjecture, that the colouring principle of the blood, is formed in the act of nutrition, in the capillaries and parenchyma of the organs, and subsequently, by venous absorption, is intermixed with the elements of the sanguine and nutritive humour. Hence the benefit that in almost every instance, I have found to be derived from the chalybeate and more permanent vegetable tonics, introduced into the organism, in a manner not to interfere with the digestive organs, when in an irritated state. The tonic and diffusive excitement of the mild mercurial preparations, gradually introduced, to avoid a pathological disturbance, are also of great utility in restoring the healthy condition of the blood. Now the medication of the preceding remedies has a common character, which is to be perceived by an analysis of the physiological phenomena, following their exhibition. It is a diffusive and permanent, or otherwise tonic excitement—a mere invigoration of the normal action of the capillary circulation, and functions of nutrition and secretion; and from this proceeds the proper or healthy constitution of the blood. This explanation is, however, presented only as conjecture, and is to be received as such, until some more positive facts can be adduced in its support.

ART. IX. *Meteorological Observations, made in the City of Philadelphia, Latitude 39° 57′, and on the Island of Tinicum, eleven miles south-west from Philadelphia, Latitude 39° 48′, for the year* 1827.* By GEORGE F. LEHMAN, M. D. Lazaretto Physician of the Port of Philadelphia.

JANUARY, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	23	23	N. W. fresh.	Cloudy. Clear. Small snow.
2	25	25	W., N. W.	Cloudy. Clear.
3	27	26	S. W.	Cloudy. Clear.
4	28	28	S. W., W.	Clear.
5	25	22	N. W.	Clear.
6	26	28	W.	Clear.
7	33	30	N. E.	Clear. Schuylkill and Delaware rivers frozen over.
8	33	32	N. E.	Cloudy. Large rain.
9	33	35	N. W.	Cloudy. Small rain.
10	38	34	N. E.	Overcast.
11	37	37	N. E.	Cloudy. Small snow at night.
12	34	36	N. E.	Cloudy. Rain.
13	36	33	S. W.	Cloudy.
14	34	31	N. W.	Clear.
15	32	32	N. W.	Clear. Cloudy.
16	33	11	S. W., N. W.	Overcast. Clear. Wind fresh.
17	15	14	N. W.	Clear. Delaware frozen up.
18	19	16	W.	Clear.
19	20	16	N. W.	Clear. Cloudy.
20	15	16	N. W.	Cloudy. Clear.
21	19	20	N. W.	Clear. Cloudy.
22	20	28	S. W.	Cloudy.
23	29	32	S. E., W.	Cloudy. Clear.
24	32	24	N. W.	Clear.
25	28	29	N. W.	Clear.
26	34	38	S. W.	Cloudy. Clear.
27	39	44	S. W.	Clear. Cloudy. Drizzly.
28	44	40	W., N. W.	Cloudy. Clear.
29	37	38	N. W.	Cloudy. Rain.
30	36	36	N. E.	Cloudy. Drizzly. Clear.
31	36	30	N. W.	Cloudy. Rain. Clear.

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* The observations were made in the city, for the months of November, December, January, February, March, April, and May, and the seventeen last days of October; and on the Island for June, July, August, September, and the first fourteen days of October. This year I have noted the thermometer at the hours of 10 A. M. and 10 P. M. as they no doubt would afford a truer mean temperature than any others. From their inconvenience, however, I have been obliged

Total rain during the month	2.70 inches.
Mean temperature	29.6° Fahr.
Maximum	44°
Minimum	11°
Range of thermometer	33°

Hottest day, 28th.—Coldest days, 18th and 20th.

Darien, Geo. January 1st.—The mercury in the thermometer stood at 11° below the freezing point all day.

Boston, Mass. January 2d.—The quantity of snow now on the ground is apparently greater than has fallen before at any one time for several years past. Yesterday afternoon at 2 o'clock, the mercury in the barometer had fallen to 28.64, a depression altogether unprecedented in this city.

Augusta, Geo. January 2d.—So excessively cold was the weather, that the river was actually frozen across last night.

New York, January 6th.—Great quantities of ice is in the bay. At 3 P. M. the ice had choked the narrows, and prevented a passage. On the 29th ultimo, the thermometer at Bellows Falls, Vermont, was at 17° below zero. At Concord, New Hampshire, at 8 A. M. it was at 18° below zero. At Hallowell, Maine, 20° below zero. At Augusta, Maine, 26° below zero.

Washington, D. C. January 7th.—A comet has been discovered for several evenings, visible at a small distance S. E. of the planet Mars.

Charleston, S. C. January 8th.—Cold weather equal to the present, has not occurred since the year 1780. It has continued from the 24th of December.

Albany, N. Y. January 12th.—The snow fell to a considerable depth. This is the third fall of snow since the last of December, and the ground is now covered by an average depth of about two feet. An equal quantity has not fallen in the same space for forty years.

Charleston, S. C. January 20th.—We have had a long continuance of cold weather. Fahrenheit's thermometer last night stood at 18°. At six o'clock this morning at 16°.

Chester, Pa. January 22d.—The river Delaware, opposite Chester, and as far as the eye can reach, is completely frozen over.

Boston, Mass. January 22d.—Our harbour is frozen over as far as Long Island, and there is much floating ice outside.

Campbell's Station, Tenn. January 30th.—The wild pigeons have this day been passing this place, going north in great numbers.

There was a frost in Havanna, in the Island of Cuba, this month, a circumstance never before known. The coffee trees were not believed to have been injured.

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to discontinue them. The evening hour is especially inconvenient, as a light must always be taken very near the thermometer to examine it.

In the last August number of the journal, in the meteorological observations for the year 1826, the mean temperature of July is given as 86.43°. It ought to be 76.73°, and the increase of heat from the preceding month, 4.56° instead of 14.26°. In August, 1826, the decrease of heat from the last month is stated as 10.86°, it is only 1.16°, and in the comparison with July, 1825, the mean temperature instead of being 6.06° greater in 1826, must be 4.56° less.

FEBRUARY, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	36	31	N. W.	Clear.
2	32	36	S. E.	Cloudy. Snow. Rain.
3	37	37	S. W.	Cloudy. Rain.
4	32	29	N., N. W.	Cloudy. Sleet at night.
5	31	32	N. E.	Cloudy. Rain all day.
6	40	34	N. W.	Cloudy.
7	34	33	N. E.	Cloudy. Clear.
8	37	37	S. W., N. W.	Clear. The ice in the Delaware broken up.
9	37	38	E.	Cloudy. Spitting of snow. Rain.
10	42	32	N. W.	Clear. Flying clouds. A flurry of snow at night from N. W.
11	39	20	N. W. very fresh.	Cloudy. Clear.
12	25	28	N. W., S. W.	Clear.
13	36	41	S., S. W.	Overcast. Clear. Delaware obstructed by ice.
14	40	36	N. W., W.	Clear.
15	36	43	N. E.	Cloudy. Snow. Rain all day and night.
16	42	44	S. W., N. W.	Clear.
17	45	40	N. W.	Clear.
18	44	44	S. W., W.	Clear.
19	42	33	N. W.	Clear.
20	36	38	N. W.	Clear.
21	38	54	S. W.	Hazy. Cloudy.
22	51	43	N. W., W.	Clear.
23	42	47	N. E.	Cloudy. Clear.
24	46	45	N. E., E.	Cloudy. Hard rain.
25	42	42	N. E.	Cloudy.
26	49	45	N. W.	Clear.
27	44	44	N. E.	Cloudy. Rain.
28	52	50	S. W.	Cloudy. Rain.

Total rain during the month - - - - - - -	3.60 inches.
Mean temperature - - - - - - -	38.45° Fahr.
Increase of heat from last month - - - - -	9.39°
Maximum - - - - - - - - - - -	54°
Minimum - - - - - - - - - - -	20°
Range of thermometer - - - - - - - - -	34°

Hottest days, 21st, 28th.—Coldest day, 11th.

February 1st.—The Ohio river is now thirteen feet above low water mark. The ice broke up on the 30th of January.

Keene, N. H. February 2d.—The snow fell about ten or twelve inches. In the woods it is now four feet deep.

Charleston, S. C. February 5th.—The weather which was lately so severely cold for this climate, has been succeeded by a warmth not usually experienced at this season. Fahrenheit's thermometer has been for several days past up to 70 degrees.

Greensburg, Pa. February 9th.—A vast quantity of snow fell during the past week, the greater portion of which melted as it fell. Six inches deep, however, of it remained when raining commenced, and continued until every particle of snow had disappeared. This had a great effect upon the streams which were bound in ice, in some instances two feet thick.

Portland, February 12th.—The thermometer was 13° below zero.

Mobile, Alabama, February 13th.—The present winter is noticed throughout the country, as being more severe than any that has been experienced for many years, particularly along the Atlantic coast. The weather was extremely cold here about the 16th of January, and ice made three or four inches thick. Since hat time it has been unusually mild. Peach trees are now in blossom.

Pottsville, Pa. February 17th.—Our sleighing yet continues. It has been good for a period of nearly seven weeks. The snow which fell at Christmas yet lies on the ground.

Philadelphia, February 17th.—The river Delaware presented a beautiful sight: between thirty and forty vessels, ships, brigs, and schooners were seen proudly ascending it. The wharves were crowded with spectators. It was at this season a novel sight, as the Delaware had been frozen up since the 17th of January.

Massachusetts, February 21st.—The whole depth of snow which has fallen this winter, is ascertained to be *sixty-one inches.*

Williamsport, Lycoming County, Pa. February 22d.—It commenced raining, and continued without intermission for many hours, which cleared the river of ice, and raised the water about thirteen feet from low water mark. The ice had continued from the middle of December to this day.

Vermont, February 23d.—The snow on the Green Mountains is more than six feet deep.

Raleigh, N. C. February 23d, and *24th,* were excessively warm days. The thermometer was up to 76°. On the afternoon of the 24th, a tremendous storm of wind and rain prostrated trees, fences, and chimnies.

Richmond, Va. February 24th.—The heat of the day was unusual for the season, and in the evening a terrific thunder storm was experienced a few miles N. W. of this place. Several houses were unroofed, and completely despoiled.

Charleston, S. C. February 27th.—Our winter has been unusually severe, and marked by great peculiarities. At the beginning of the year, Fahrenheit's thermometer at six o'clock in the morning, was as low as 14° above zero, and in thirty hours after, in the same spot, it rose to 68°. In consequence of the mildness of the weather in the present month, all our fruit trees are in blossom. Last night a thunder storm occurred, accompanied by vivid flashes of lightning, and torrents of rain and hail.

Little Rock, Arkansas Territory, February 27th.—The weather continues remarkably fine. Peach trees are in full bloom, and the forests already resound with the notes of a variety of birds.

St. Johns, N. B. February 28th.—It is a curious circumstance that there has not fallen, during the present season, a sufficient quantity of snow to cover the ground.

MARCH, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	42	40	N. E.	Cloudy. Rain.
2	38	40	N. W.	Cloudy. Clear.
3	42	31	N. W.	Clear.
4	36	36	N. E., S. E.	Overcast. Clear.
5	43	38	N. E.	Clear.
6	43	40	N. E.	Overcast. Cloudy. Rain.
7	42	44	S. W., N. W.	Cloudy. Clear.
8	48	50	N. W., S. W.	Clear.
9	52	48	N. W.	Overcast. Clear.
10	50	46	N. W.	Clear.
11	51	45	S. W., N. W.	Clear.
12	50	56	S. E.	Overcast. Cloudy. Rain.
13	52	40	W., N. W.	Clear.
14	41	35	S. W., W.	Cloudy. Snow all the afternoon, which melted as it fell.
15	37	41	N. W.	Overcast. Clear.
16	44	44	N. W.	Clear.
17	48	44	N. W.	Clear.
18	50	53	S. E. very fresh.	Cloudy. Large rain.
19	52	40	W., N. W.	Cloudy. Rain.
20	42	39	N. W.	Clear. Cloudy. Small rain. Weather variable.
21	36	44	N. E.	Clear. Shower at night.
22	50	60	S. W.	Clear.
23	56	44	N. W.	Clear.
24	42	42	N. W.	Clear.
25	46	50	S. E., S.	Clear. Cloudy
26	54	60	S. W. fresh.	Cloudy. Clear.
27	62	62	S. W.	Clear. Shower before daylight.
28	59	44	N. W.	Cloudy. Clear.
29	51	45	N. W.	Clear.
30	48	48	N. W.	Clear.
31	52	43	S. W.	Overcast. Clear.

Total rain during the month	1.36 inches.
Mean temperature	45.61° Fahr.
Increase of heat from last month	7.16°
Maximum	62°
Minimum	35°
Range of thermometer	27°

Hottest day, 27th.—Coldest days, 4th, 14th.

March 1*st.*—The first ark descended the Susquehanna river this season on the 28th of February. Several arks descended on the 1st, 2d, and 3d of March. This is unprecedented, arks not generally going down until the latter end of March.

Pottsville, Schuylkill County, Pa. March 3*d.*—In consequence of copious warm rains carrying off the snow from the hills, and the ice from the canal, dams, and streams, the waters of this county have been much raised.

Pittsburgh, Pa. February 9th.—The river is seven feet and a half above low water mark.

Charleston, S. C. March 10th.—As a proof of the mildness of the season, we may mention, that a full grown rattlesnake, twelve years old, was caught a few days ago.

New York, March 11th.—Fahrenheit's thermometer stood in the shade at 65°, and from the flight of the wild geese, we may expect uninterrupted freedom from cold.

Charleston, S. C. March 12th.—The spring has set in early; our fruit trees have been for some time in blossom. Green peas were sold in the market on Saturday last.

New Haven, March 13th.—A fine shad was exhibited, which was caught in Concord river.

Savannah, Geo. March 14th.—The market is already supplied with the flowers and vegetables of spring in considerable abundance. Green peas have made their appearance.

Greensburg, Pa. March 16th.—For some time past, the weather has been uncommonly mild, so as to induce the feathered throng to take possession of our groves and house-tops. The shrubbery had nearly unfolded their buds, and all nature seemed about launching into new life, when the winds began to blow, the snow descended, and now all looks bleak and dreary.

Charleston, S. C. March 17th.—A very sudden change of weather has taken place within the last two or three days, which from being temperate, has assumed all the severity of winter. On the night of the 15th, there was ice.

Pennsylvania, March 18th.—The snow is two feet deep on a level in the neighbourhood of Lackawaxen.

Reading, Pq. March 27th.—About midnight, a hurricane accompanied with rain, was experienced in this borough, and in the northern part of the county. Several houses and barns were unroofed, south of Kútztown, and trees torn up by the roots.

Lewistown, Pa. March 27th.—At night this borough and its vicinity was visited by the most fearful storms of wind. Its effects were truly appalling—houses unroofed, and sheds and stables blown down. Almost every house has suffered more or less.

Hartford, Conn. March 29th, 30th.—The water rose over the banks of the Connecticut river higher than it has risen since 1807. The rise is more than twenty feet.

Albany, N. Y. March 30th.—The following is the quantity of snow that fell during the past winter:—December, four inches; January, forty-two inches; February, fourteen inches; March, three inches; total, sixty-three inches, equal to five feet and three inches, to which the memory of the oldest inhabitants can produce no parallel.

Quebec, March.—More snow fell in this month than has fallen since the opening of winter.

APRIL, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	43	43	N. E., N.	Cloudy. Clear.
2	50	53	S. W.	Clear.
3	60	58	S. W.	Overcast. Clear.
4	64	64	S. W.	Overcast. Rain at night.
5	67	60	S. W.	Overcast. Rain heavy.
6	60	60	S. W., W.	Cloudy. Clear.
7	61	54	N. W.	Clear.
8	62	59	S. W.	Clear.
9	56	62	E., S. E.	Cloudy. Rain.
10	62	65	S. W.	Overcast. Clear.
11	64	68	N. W.	Hazy. Clear. Rain at night, with lightning and thunder.
12	68	64	S. W.	Cloudy. Clear.
13	61	61	S. W.	Clear.
14	63	61	N. W.	Hazy.
15	60	63	N. W.	Cloudy. Clear. Drizzly A. M.
16	56	45	N., N. W.	Cloudy. Rain. Clear.
17	52	50	N. W. fresh.	Clear. Overcast.
18	55	51	N. W. fresh.	Clear.
19	57	58	N.	Clear. Cloudy.
20	57	55	N. E.	Clear.
21	56	61	S. W.	Cloudy. Drizzly.
22	61	58	N. W.	Clear.
23	58	55	N. E.	Cloudy. Rain.
24	58	55	N. E. W. fresh.	Cloudy. Large rain, with lightning and thunder.
25	48	50	N. W. fresh.	Overcast. Clear.
26	47	50	N. W.	Clear.
27	57	52	N. W., S.	Clear. Cloudy. Rain.
28	52	52	S. E.	Cloudy. Large rain. Clear.
29	52	49	S. W.	Overcast. Drizzly. Clear.
30	58	50	N. W.	Flying clouds. Cloudy.

Total rain during the month	2.90 inches.
Mean temperature	56.51° Fahr.
Increase of heat from last month	10.90°
Maximum	68°
Minimum	43°
Range of thermometer	25°

Hottest days, 11th, and 12th.—Coldest day, 1st.

April 1st and 2d.—Severe gales of wind, accompanied by rain, were experienced in Charleston, S. C. and on the coast of North Carolina.

Trenton, N. J. April 2d.—The genial warmth of the sun, and salutary rain last week, is clothing our fields with green, and some of the early fruit trees are in bloom. The Delaware river continues high.

Norristown, Pa. April 10th.—The weather is remarkably fine. Vegetation progresses with a rapidity unequalled for a number of years.

Mecklenburg, Va. April 10th.—About five o'clock, a tremendous storm of hail and rain occurred. The hail-stones were from the size of a musket ball to a hen's egg. The hail was succeeded by a very heavy storm of rain and wind.

Sunbury, Pa. April 10th.—In the afternoon a storm blew up from S. S. W. accompanied by lightning and thunder. A barn was struck by lightning, and entirely consumed.

Montreal, April 11th.—The river near this city is now clear of ice. On the 4th it broke up.

Morristown, N. J. April 12th.—The present season as yet has been characterized with the steady and uniform mildness which was common in our climate some fifteen or twenty years since. The soft, westerly breezes, and seasonable showers have mantled the earth with more of vegetation than of late years we have been accustomed to witness for perhaps even a month or six weeks later.

Trenton, N. J. April 14th.—Large supplies of shad were brought to our market.

Norristown, Pa. April 17th.—In the morning we had a heavy frost. The thermometer at six o'clock was as low as 36°.

Georgetown, S. C. April 21st.—After several excessively warm days, we experienced a violent thunder storm, accompanied with a heavy shower of rain. On the 23d, the wind blew with so much violence, as to strip the branches from the trees, and prostrate fences.

Reading, Pa. April 24th.—Never did vegetation appear better, or more forward at this season of the year, than it does now. The slight frosts which lately visited us, appear to have done no injury.

York, Pa. April 26th.—New potatoes are in our market for sale.

Petersburg, Va. April 27th.—The weather has been cool for the last two or three days, and yesterday morning our fields and gardens were whitened with frost. This day week, green peas and strawberries were in our market, luxuries which are not ordinarily obtained before May.

Columbia, S. C. May 5th.—For several days past, the weather has been unusually cold. On the 3d, there was considerable frost, and the young corn has been injured.

Philadelphia, May 7th.—Green peas are in our market.

Wilkesborough, N. C. May 11th.—A pretty severe shock of an earthquake was felt here.

Montgomery County, Pa. May 16th.—The Hessian fly is committing its ravages amongst the wheat. They are also destructive in some parts of West Chester.

New York, May 19th.—A meteor was seen about nine o'clock in the evening, in the vicinity of Ursa Major.

Hagerstown, Md. May 24th.—Many farmers in this county have ploughed up their wheat fields, and put in corn. It is supposed that the best fields will afford but little more than half a common crop.

MAY, 1827.

DAYS.	FAHREN. THERMOM. 10 A. M.	FAHREN. THERMOM. 10 P. M.	WINDS.	WEATHER.
1	51	46	N. W.	Clear. Overcast.
2	54	54	N. W.	Clear.
3	55	56	N. W.	Clear.
4	56	57	S. W.	Clear.
5	61	62	S. W.	Clear.
6	69	64	S. W., S.	Clear. Cloudy. Rain.
7	55	48	N. W.	Cloudy. Drizzly. Clear.
8	55	54	N. W.	Clear.
9	60	60	S. W.	Clear.
10	59	52	N. E.	Cloudy. Large rain.
11	56	57	N. W. fresh.	Clear. Overcast.
12	62	56	N. W.	Clear.
13	62	57	N., N. W.	Clear.
14	58	61	S. W.	Clear.
15	59	60	E.	Overcast.
16	63	65	N. W.	Clear.
17	72	68	N.	Hazy. Clear.
18	71	68	N. W.	Clear.
19	70	59	N. W., E.	Clear.
20	62	57	S. W., N. E.	Clear Cloudy.
21	58	62	S. E.	Cloudy. Rain.
22	62	65	S. E.	Rain.
23	61	64	S. E.	Cloudy.
24	60	63	S. E.	Cloudy.
25	65	65	N. E., E.	Clear.
26	74	77	S. W.	Clear.
27	73	78	S. W.	Clear.
28	71	68	S.	Overcast.
29	60	59	N. W.	Cloudy.
30	64	72	W., S. W.	Clear.
31	65	73	S. W. fresh.	Clear. Cloudy. Rain, with thunder and lightning.

Total rain during the month	2.40 inches.
Mean temperature	61.48° Fahr.
Increase of heat from last month	4.97°
Maximum	78°
Minimum	46°
Range of thermometer	32°

Hottest days, 26th and 27th.—Coldest day, 1st.

Norfolk, Va. May 1st. At noon a sudden and severe storm of wind and rain from N. N. W. swept over this town. It continued for about an hour, and some snow fell during the tempest. The weather has been for many days at the temperature of fall.

JUNE, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	59	60	N. W. fresh.	Overcast.
2	61	59	N. W. fresh.	Clear. Thermom. 49° at sunrise.
3	60	58	W., S. fresh.	Hazy. Cloudy. Rain at night.
4	61	60	N. E., S. E.	Cloudy. Rain. Clear.
5	70	62	N. E.	Clear.
6	69	67	N. E.	Clear.
7	69	69	N. E.	Overcast.
8	72	68	N. E.	Cloudy. Smart rain at night.
9	74	71	S. W.	Clear. Cloudy. Rain at night, with vivid lightning and thunder.
10	74	65	N. W. fresh.	Clear.
11	67	69	N. W., S.	Clear.
12	70	68	S. W. fresh.	Clear.
13	70	70	S. W.	Clear.
14	75	72	S. E.	Hazy. Cloudy. Rain, with lightning and thunder.
15	76	74	N. W.	Clear.
16	78	70	N. E.	Clear.
17	72	66	N. W. fresh.	Clear.
18	64	66	N. W., S. W. fresh.	Clear.
19	70	64	S. W., S. E. fresh.	Clear.
20	72	70	S. a gale.	Hazy. Cloudy. Drizzly.
21	72	74	S. W. fresh.	Cloudy. Drizzly. Rain, with thunder and lightning.
22	70	58	S. W., N. W. fresh.	Cloudy. Rain. Clear.
23	62	60	N. W. fresh.	Clear. Frost at daylight.
24	60	66	N. W., S.	Clear.
25	70	68	S. W., S. E.	Clear. Cloudy. Rain at daylight.
26	68	70	S. W.	Cloudy. Large rain, with lightning and thunder.
27	76	73	S. W. fresh.	Overcast. Cloudy. Rain.
28	73	74	S. W.	Cloudy. Drizzly. Clear.
29	74	72	N. W.	Clear.
30	76	75	S. W.	Clear.

Total rain during the month - - - - - -	2.70 inches.
Mean temperature - - - - - - - -	68.20° Fahr.
Increase of heat from last month - - - - -	6.72°
Maximum - - - - - - - - - - -	78°
Minimum - - - - - - - - - - -	58°
Range of thermometer - - - - - - - -	20°

Hottest day, 16th.—Coldest day, 3d.

Greensburg, Pa. June 1st.—This neighbourhood was visited by a severe frost, which totally destroyed the beans and corn in our gardens and fields. The frost was severe at Chambersburg, but uncommonly so at Somerset, where the fruit is generally destroyed, and the corn frozen to the ground.

Danville, Vt. June 4th.—A hail storm occurred. Some of the stones were as large as partridge eggs, and the ground was covered with them.

Charleston, S. C. June 11th.—The summer has not been ushered in for many years with such a singularity of aspect, as it has been the present year. The current month has been unusually cool. Since the 9th, however, it has resumed its usual character.

Quebec, June 14th.—During a severe thunder storm, the thermometer fell from 92° to 66° in three hours.

Augusta, Geo. June 14th.—Peaches and water melons were in the market, and green corn has been exhibited in Norfolk, Virginia.

June 14th.—Baltimore was visited by a severe thunder storm. An immense body of rain fell at the same time. Several mill-dams were swept away, and the cellars in some parts of the city were filled with water.

Pottsville, Pa. June 17th.—In the night we had frost. Our streams are low, and the soil of our gardens dry as dust. There was also frost in Cambria and Centre counties.

Salem, Mass. June 18th.—We were visited by a storm of thunder and lightning of unusual duration. The electric fluid struck several buildings.

Mobile, Alabama, June 19th.—An extraordinary drought has prevailed in all the lower part of the state, which has very seriously injured the crops of corn and cotton, particularly the former. The drought has been accompanied pretty much throughout the month of June with hot weather.

Pittsburg, Pa. June 19th.—For two months past the weather has been rather unusual. Many refreshing showers, with a good degree of general warmth, have promoted vegetation; but several sharp frosts have given it a check, and even so late as yesterday morning considerable frost was seen in the low grounds in the direction of Cranberry Plains of Butler County.

Washington City, D. C. June 22d.—At night there was a severe frost in our neighbourhood, which has done some injury.

Armstrong County, Pa. June 22d.—There was a severe white frost. On the morning of the 23d, ice was made as thick as window glass.

June 24th and 25th.—In the District of Quebec, severe frosts were experienced in the night. The tender vegetables sustained considerable injury, and the leaves of the forest trees bore testimony to the severity of the cold.

Goshen, N. Y. June 25th.—The north-west part of our county was visited by a most extraordinary hail storm, destroying in its course many acres of beautiful grain. The size of the hail-stones were from three-quarters to an inch in diameter. Many panes of glass were broken. On the day after the storm, large quantities of hail were collected and deposited in ice houses.

Charleston, S. C. June 25th.—The thermometer, which on the 21st and 22d, ranged from 80° to 84°, gradully sunk down to 60° in the night of the 22d, after a thunder gust, and a heavy fall of rain. On the 23d, the wind was east and north. It is still very cool, and warm covering is agreeable.

Greensburg, Pa. June 27th.—About twelve at night this village was visited by a thunder storm, which continued until nearly daylight.

JULY, 1827.

DAYS.	FAHREN. THERMOM. 10 A. M.	FAHREN. THERMOM. 10 P. M.	WINDS.	WEATHER.
1	82	78	S. W.	Hazy.
2	86	76	W., N. W.	Clear. Cloudy at 7 P. M.—wind N. W. with rain, thunder, and lightning.
3	86	82	N. W., S. W.	Clear.
4	86	75	S. W. fresh.	Clear. Cloudy at 5 P. M.—wind N. W. with rain.
5	76	70	N. W.	Clear.
6	75	70	N. W. fresh. N. E.	Clear.
7	76	72	S. E., S. fresh.	Clear. Cloudy.
8	71	70	S. by E. fresh.	Cloudy. Large rain.
9	72	73	E.	Cloudy. Clear.
10	73	73	E., S. E.	Overcast. Clear.
11	74	76	S. fresh.	Cloudy. Large rain.
12	80	78	S. W. fresh.	Hazy. Wind variable from N. W. and S. W. with thunder and lightning. Stormy and drizzly.
13	83	78	N. W.	Clear.
14	83	75	S. W., N. W. fresh.	Clear. Cloudy. Large rain, with thunder and lightning.
15	81	80	N. W.	Clear.
16	67	68	N. W.	Cloudy. Rain A. M. Clear.
17	72	71	N. W., S. E. fresh.	Clear.
18	74	71	N. W.	Clear.
19	74	71	N. W., S. E.	Clear.
20	78	78	S. W. fresh.	Clear.
21	73	69	N. W.	Overcast. Clear.
22	70	70	N. W.	Clear. Thermom. 58° at daylight.
23	71	67	N. E. fresh. S. E.	Overcast.
24	68	65	N. E. fresh.	Cloudy.
25	71	68	S. E. fresh.	Overcast. Small rain at night.
26	74	70	N. W.	Clear.
27	72	72	N. W., S. W. fresh.	Clear.
28	74	76	S. W.	Clear.
29	78	74	N. W.	Clear.
30	75	76	N., N. E.	Clear.
31	80	75	E., S. W.	Clear.

Total rain during the month - - - - - -	3.08 inches.
Mean temperature - - - - - - -	74.34° Fahr.
Increase of heat from last month - - - - -	6.14°
Maximum - - - - - - - - - -	86°.
Minimum - - - - - - - - - - -	65°.
Range of thermometer - - - - - - -	21°.

Hottest day, 3d.—Coldest day, 24th.

West Chester, Pa. July 3d.—The thermometer at 3 P. M. in the shade was 92½ degrees.

St. Louis, Missouri, July 5th.—A shock of an earthquake of about a minute's duration, was felt in this city this morning at half past five o'clock, accompanied by a loud rumbling noise.

July 7th.—The Ohio river at Wheeling is four feet and a half above low water mark.

Lancaster, Ohio, July 14th.—A large meteor was seen towards the east by the inhabitants of Pleasant Township, Fairfield county, between four and five o'clock, P. M. passing with great velocity towards the north. The reflection of the sun on the body of the meteor gave to it a most splendid and beautiful silver colour. An explosion was heard about twelve minutes after it passed resembling a large cannon.

Tuscaloosa, Alabama, July 14th.—Our crops are burning up in this part of the country. Even the winds, which are generally refreshing, seem to have a scorching influence. The mercury in the thermometer was at 100° in the shade on Wednesday last. We have not had rain enough even to refresh our corn-fields, for many weeks.

Salem, Mass. July 18th.—A violent thunder storm passed over this town. The clouds had been gathering in the north-east during the afternoon, and about sunset they burst over us in heavy showers, accompanied with lightning.

New Orleans, Louisiana, July 21st.—The river has fallen this week seven inches. The weather continues dry and warm.

Mobile, Alabama, July 21st.—The long drought which we had experienced in common with all this section, has within the last ten days been succeeded by tolerably copious showers of rain, and vegetation is reviving.

New York, July 23d.—At half past nine o'clock, a meteor was observed. Its course was from near the zenith northwardly, and described an arc of about ten degrees. Its trail, which was of a bright red, continued luminous in its whole length, until the explosion, which was not distinctly heard.

Portland, Maine, July 26th.—We were visited in this vicinity by a cold rain storm. Twenty-four miles distant, in the town of New Gloucester, the atmosphere was filled with snow, none of which, however, retained its form long enough to reach the earth.

Savannah, Geo. July 28th.—During the week the daily extremes of the thermometer have been from 82° to 88°, and once or twice has reached 90° and 91°. Frequent, though not heavy showers, have visited us during the same period; wind south.

New Orleans, Louisiana, July 28th.—The weather is very warm, with occasional light showers.

Charleston, S. C. July 30th.—Since the summer of 1817, the city has not been visited at this period of the year, with such heavy and continued rains. During the whole of last week, it rained day and night, with few and partial intermissions.

It is rather a curious circumstance that the severe gale and cold of the 23d and 24th ultimo, was felt along the course of the St. Lawrence, as far as the head of Lake Erie, at Washington City, and the New England states in the same days.

It appears that a greater number of deaths from lightning have occurred this season than usual.

(To be continued.)

REVIEWS.

ART. X. 1. CORVISART. *Essai sur les Maladies et les Lésions Organiques du Cœur et des gros Vaisseaux.*

2. BURNS. *Observations on some of the most frequent and important Diseases of the Heart, &c.*

3. BERTIN. *Traité des Maladies du Cœur, et de gros Vaisseaux.*

4. REEDER. *A Practical Treatise on the Diseases of the Heart, &c.*

5. BROWN. *Medical Essays on the Diseases of the Heart, &c.*

6. DUNDAS. *An Account of a Peculiar Disease of the Heart.*—Med. Chirurg. Trans. Vol. I.

7. WELLS. *On Rheumatism of the Heart.*—Transactions of a Society for Improvement of Medical Knowledge, Vol. III.

8. JAMES. *On Diseases of the Heart.*—Med. Chirurg. Trans. Vol. VIII.

9. LAENNEC. *Treatise on the Diseases of the Chest, &c. &c.* Translated from the French. By JOHN FORBES, M. D. &c. &c.

10. MARTINET. *Manual of Pathology, &c. &c.*—Translated from the French. By JONES QUAIN, M. D.

CARDIAC diseases seem not till lately to have been investigated with care, and hence our knowledge of the subject was slight, vague, and confused. Early in the present century, however, it began to solicit attention, a closer mode of inquiry was instituted, and we have now attained to far more distinct and enlightened views, though still there is probably no portion of pathology of much greater obscurity. It has occurred to us, that we might, perhaps, render an acceptable service to our readers, by preparing a synopsis or digest of the matter which is now diffused through various writings little known we suspect to many, and accordingly in the execution of this design, we have consulted the numerous authorities at the head of this article. Content, as we must be, from the narrowness of our limits, to aim chiefly at what we may deem most interesting, we shall on all points avoid minuteness of discussion, and hope rather to stimulate the curiosity of the medical mind of our country to the perusal of the works themselves, which we have indicated, than to satisfy it by the information we shall communicate.

The heart, and its immediate connexions, form a very complicated machine for the momentous purposes of the circulation, consisting of diverse structures, each part of which is exposed to derangements, and each of which derangements has been made, in some degree, a separate disease. Difficult in itself, the subject is rendered the more embarrassing by these minute divisions, and artificial refinements. We shall endeavour to escape from this error, by introducing a simpler classification, in which practical convenience may be better consulted. Not a few of the affections, occasionally described, will be entirely excluded as of little importance, hard to be recognised or discriminated, and requiring no peculiarity of treatment. Those which may claim our attention, will be grouped together when practicable, according to their affinities, so as to present a more compact generalization.

It seems to be confessed, that cardiac diseases, within a short period, have become more numerous than formerly, or, at all events, more frequently noticed. No doubt can well be entertained of the fact, and perhaps, in seeking the true explanation of it, each of these suggestions should have its weight. The subject, having excited a livelier interest, more perspicacity has been applied to it, and instances are observed or disclosed, which, with less care and penetration, might have eluded detection, or even the suspicion of their existence. Granting this, however, there are circumstances in the constitution, and relations of the central organ of the circulation, which expose it at certain seasons, more especially, to morbid aggressions. Extensively connected with the corporeal structure, it is scarcely less influenced by moral impulses, and hence, is doubly susceptible to baneful impressions.

Corvisart affirms, that during the perilous scenes of the French revolution, the diseases of the heart, in all their grades and modifications, multiplied to an enormous extent, affording him the instigation to, as well as the amplest advantages in, the cultivation of this province of pathology. The same remark is made by Testa, in relation to the more recent revolution in Italy. Common, experience, in a narrower sphere, abundantly illustrates the effects of mental emotions, or intense moral excitements, in disturbing, or more seriously affecting, the function, or organization of the heart.

Civilization, by creating a finer sensibility, and a wider surface to act upon, conduces in all its tendencies to this end. Every step of our progress, from the complexity of the social relations, is environed by some possible annoyance, even in the happiest times of peace and tranquillity. The turmoils of public concerns, the cares of private business, the mortifications of pride, the disappointments of ambition, the reverses of fortune, the ingratitude of friends, the persecutions of enemies, the sufferings of ill-requited love, the anguish of domestic afflictions, and above all, the humiliations of disgrace, are so many corrosives of feeling, and vultures of the heart. Mental perturbation of a different kind is not always without a similar effect. Exacerbated rage, vehement terror, exuberant joy, and other excessive emotions, have sometimes suddenly extinguished life by an undue rush of blood on the heart, or laid the foundation for a slower lesion of that organ. Classic history supplies several well known examples of the former, and the fact of the venerable janitor of the congress of our revolution, expiring in the plenitude of exultation, from a rupture of his patriot heart, on the reception of the intelligence of one of the most glorious events of the times, is fully attested.

In assigning so much to these moral agencies in the production of cardiac disturbance, we are aware that the ascertained nervous connexion between the heart and the brain, is not generally supposed of that intimate or ample character, to warrant the conclusion to the extent we have assumed. But "there are many things in our philosophy not dreamt of" by the mere anatomist. Even he, however, has shown that such a relation does exist, though slight—and, without recurring to the proof afforded by direct experiment of the reciprocal influence of these organs on each other, or other physiological considerations, an appeal may be safely made to common observation, in support of the fact of the violent and tumultuous agitation of the heart by mental impulses.

The preceding are some of the sources of cardiac irritation in polished society, from which the lower orders have comparatively an immunity. But they are subjected to causes of another description which, perhaps, operate no less powerfully. Destined to the performance of the coarser and more toilsome occupations, their exertions are strenuous, and unremitting, whereby, the circulation is accelerated, and the heart unduly labours, which state by continuance may eventuate in functional or organic lesions. Conducted in the open air, and applied to the ordinary employments, such efforts do not often produce any essential injury. But very different is the result, in all probability, when carried on in those wretched manufacturing establishments, which the wants, the luxuries, or caprices of society sustain, inhaling a mephitic or otherwise vitiated atmosphere, working in distorted positions of body and limbs, and every energy strained to earn a modicum of subsistence.

Estimating this as it may be, it shrinks into insignificance, compared with an agency which is felt in our own country in all its force. The vast and unexampled consumption of ardent spirits by our people, the constant stimulation under which they are kept by it, and particularly as relates to the impetuous action given to the heart, we should presume, independently of positive evidence, that it must prove a prolific cause of cardiac derangement. But what might have been suspected, is conclusively demonstrated. Numerous instances of the consequences of such an abuse, we have met with in private practice, and so frequent are they in our Alms-house Infirmary, that capacious receptacle of drunkards, that we are rarely ever without them, and in those opened, of whatever disease they may have died, cardiac lesions are frequently observed.

Not so pernicious as the preceding cause, though undoubtedly conducive to the same result, is the habit of gluttony, or a too free indulgence in stimulating food, operating by an oppressive plethora or undue irritation of the heart, or depravation of the digestive functions which are prone to reflect their disturbances on the organs of the circulation. Directly the reverse of this, or a diet exceedingly low and penurious, has been suspected to be also detrimental in this respect, by causing an atrophy of this organ, from inadequate supply of nutriment.

By a distinguished authority, it has been suggested, that cardiac, in common with other diseases, have their periods of more frequent occurrence, owing to some peculiar constitution of the atmosphere. That they should be exempt from an epidemic influence, no reason can be assigned, though we have never witnessed any manifestations of it. Be this, however, as it may, they are certainly dependent on the sensible qualities of the weather, to be directly traced to that humid and austere state, so productive of rheumatism and the pneumonic affections. The population of our eastern sea-board, during the more inclement seasons, are exceedingly liable to cardiac disorders, which once established, are very difficult of cure, except by a removal to a milder climate, several of whom have come to this city and recovered under our care.

In much the larger number of instances thus induced, the affection is purely rheumatic, though undoubtedly, sometimes otherwise, the heart secondarily suffering from an antecedent disorder of the lungs, occasioning an obstruction to the circulation on the right side. The rheumatic attack may be immediately on the heart, or translated to it from a joint or any other external part of the body, the latter being the more common occurrence. Exactly in the same way, does gout operate, either misplaced, or by metastasis, and we are entirely persuaded, that nearly the whole of the cardiac affections of aged persons, are to be inputed to the weaker or atonic variety of that disease.

As somewhat analogous, the repulsion of cutaneous eruptions may here be mentioned as a further cause, and to which, we are inclined to believe, that too little has been usually ascribed. But independently of the numerous cases reported by TESTA and KREYSIG to this purport, several have occurred in our own practice of the most conclusive nature. The exanthemata, as measles, scarlatina, &c. we are told, sometimes thus operate mischievously, though deciding from our own experience, we should say, that it is more frequently to be traced to the recession of the chronic eruptions, and particularly to tetter, of which, we have recently seen two well marked instances.

Much has, moreover, been imputed in the production of cardiac affections by Testa, to a strumous habit—and still more to syphilis, by Corvisart—the latter of whom, believes that the valves of the heart are very liable to become deranged by it. Distinct from the testimony of these authorities, there is no reason to question, a priori, such an effect, though we are assured by Bertin, whose experience was ample, that the influence of venereal contamination has been greatly exaggerated. To these more general causes may be added certain congenital disproportions between different parts of the heart, and between that organ and the diameter of the aorta, as pointed out and explained by Corvisart and Laennec.

Most of the causes hitherto enumerated, act more immediately on the heart itself. But it is sometimes affected by impressions indirectly imparted from the sufferings of other organs. It has already been intimated, that certain states of the lungs exert a material influence in this respect, and which is sufficiently intelligible without any explanation. Besides these, however, the heart may be injured by its sympathies with remoter parts. Chronic irritations of the primæ viæ, as we have hinted, are very apt to be extended to it, and enlargements of the liver, pancreas, spleen, or any other of the abdominal viscera, are scarcely less injurious, by either transmitting their irritations, or obstructing the circulation, by compressing the large vessels in their vicinity, or in other modes. Even pregnancy may have this consequence.

That diseases of the heart are often hereditary, is now conceded, though in what such predisposition consists, does not very clearly appear. Congenital defects of the organ itself, or certain deformities of the chest, natural or acquired, from rickets or by other means, may have such an effect.

But in some instances, it seems to exist independently of mal-conformation or any obvious cause, and is wrapt in as much obscurity as is the predisposition to many other diseases. Be it as it may, the fact is fully established on the authority of LANCISI, ALBERTINI, MOR-

GAGNI, PORTAL, TESTA, and other writers, by whom cases are related of its pervading whole families, and of different generations.

With these preliminary remarks, we enter on the consideration of some of the individual affections of the heart, and first, of its acute phlogosis. Carditis, as this is technically called, we are told by Laennec, is a very rare event, and of course imperfectly understood both in a pathological and practical view. "There, perhaps, does not exist on record," says he, "a satisfactory case of a general inflammation of the heart, either acute or chronic. The greater number of cases so called, and particularly those given by Corvisart, are evidently instances of pericarditis, attended by that degree of discolouration of the heart, which we shall find frequently to accompany that affection."

It seems to us not at all probable, that such is a just view, as we can discern no reason why the substance of the heart should have this exemption from acute phlogosis—and certain it is, that it is liable to various lesions, the origin of which can scarcely be assigned to any other process than chronic inflammation. As, however, it is admitted that we are possessed of no means of discrimination between the phlogosed state of the organ itself, and its enveloping membranes, and even could it be done, the treatment were the same, we shall, in pursuance of Laennec's hypothesis, proceed to the consideration of *Pericarditis.*

This is an affection not always distinctly characterized by symptoms. Cases may be presented with the most unequivocal indications of it, when on a *post mortem inspection,* no traces of it can be discerned—and, conversely, decided evidence of its having prevailed, where not the slightest cause existed to suspect it. The disease, Laennec says, may be *divined* from certain symptoms, though not positively *recognised* or determined. Corvisart is nearly of the same opinion.

That this obscurity may occasionally prevail, we are bound to believe, on such high and concurrent authority. But really, from our own observations, we must think, it is not a little exaggerated.

In delivering the history of the disease, the prominent symptoms, as found in the best writers will be given, with such as we have remarked ourselves, in the cases which have come under our notice. These are varied according to the nature of the attack—sometimes the invasion being gradual and mild, and, at other times, sudden and vehement. Generally, however, it is betrayed in the beginning, by pretty nearly the same signs as pleuritis. But soon it assumes a less equivocal aspect by a very acute pain, and sense of heat in the præcordial region, by extreme difficulty in breathing, by inability to change the position, which is usually on the back, particularly to turn to the left side, or to straighten it, by much restlessness, anxiety, and apparent anguish, the face being pale or occasionally flushed on the left cheek, or tumid and saturnine, sometimes bedewed with perspiration, and by a frequent disposition to syncope. It often happens, and it is among the most characteristic of symptoms, that the recumbent posture cannot be at all endured, and relief is only afforded, by sitting up, either in or out of bed, with the trunk bent, and the arms resting on the back of a chair, or some other support. Compressing the heart, it will usually be found bounding and forcible, and the pulse strong, full and frequent—in this respect, however, differing—sometimes the contractions of the heart being feeble and irregular, and the pulse small, corded, intermittent, and, as it were, jerking or convulsive. It is said that there is sometimes a difference in the pulse of the two arms, that of the left being more quick and less regular than that of the right. The urine is high-coloured and scanty, and the bowels constipated. Towards the close, distortion of countenance takes place, marked particularly by protuberant, moist, and shining eyes, with increased jactitation, and an expression of terror or despair—and finally, lividity, cold sweats, and puffiness of the face. Complicated as this affection is often, by a more or less extensive inflammation of the lungs, or their connexions, the symptoms, of course, are considerably modified. It may also be proper to advert to that form of the disease dependent on rheumatism, which, however, when a primary affection, and not of extraordinary violence, we are not aware is to be distinguished by any peculiarities. But caused by a sudden and entire metastasis from the extremities, the heart is instantly seized with a sharp, lancinating, spasmodic pain, and is thrown into the most laborious action, with great irregularity of the circulation, and throbbing of the vessels of the neck.

As to the etiology of this disease, it can hardly be required of us to particularize it after the general discussion which the subject has received. In most recent attacks, we presume, an exposure to cold, and moisture, is the main cause, heightened no doubt, in many instances, by intemperance.

The diagnosis as we have seen, so far as depends on symptoms, is represented as very often obscure, and deserves little confidence. Corvisart supposes this ambiguity to be owing to pericarditis being complicated with pleuritis, peripneumony, paraphrenitis, mediastinitis, or some other disease of the chest, which masks its peculiar signs. Thus combined, the aspect of the case must necessarily be confused by extraneous incidents. But when of a simple character, we have experienced little perplexity in the recognition of it. Many of its phenomena are very peculiar and distinctive, and especially the expression of countenance. Corvisart in his discriminations, relied much on this morbid physiognomy, and is reported to have attained such skill in it, that he was rarely deceived in his decisions. The stethoscope supplies no very distinct information: all which we learn from it is, that in a person previously healthy, the contractions of the ventricles of the heart give a strong impulse, and sometimes a sound more marked than in the natural state: at intervals of various duration, more feeble and shorter pulsations occur, corresponding to intermissions of the pulse, of which the smallness is singularly contrasted with the force of the beatings of the heart: sometimes it can scarcely be felt.

It must be obvious that this is a disease, under all circumstances, of no ordinary danger. Emphatically a vital organ, the heart can never suffer with impunity to the living system. There are also inherent difficulties to the cure of its affections. Most other organs may be placed in a state of rest so important, when crippled or disordered. But the actions of the heart cannot be suspended for a moment—its labours are in fact increased, and it becomes an instrument of its own destruction, or tends to such an effect. This case, however, is not necessarily fatal, and may be, indeed, often relieved by vigorous measures, provided we are early consulted. The prognosis, on the whole, must be held to be very doubtful. Death sometimes happens very suddenly, when not at all foreseen or anticipated, owing to spasm of the heart, and which is most apt to occur in the arthritic and rheumatic forms of the disease. We once attended a case where life was instantaneously extinguished by a translation of rheumatism to the heart, and several similar instances are recorded.

On a *post mortem* inspection, the following appearances are presented. The serous membrane is found inflamed, the redness always slight and partial, commonly punctated, or in points or patches, with an interspersion of specks of blood close together. It is very usual to meet with a concrete albuminous exudation investing the whole surface of the pericardium, as well on the heart and large vessels, as on the sac. This exudation, though resembling the false membrane in pleurisy, is thicker, more consistent, and rougher, sometimes so pustular in its aspect, as to have been mistaken for the variolous eruption.* No thickening of the tissue is perceivable.

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* Laennec, p. 264.

In the cavity of the pericardium, effusions are uniformly observable, mostly of a pale yellow colour, or slightly brownish, in which are mixed fragments of semi-concrete albumen. The quantity of this fluid is considerable, often a pint, and in one case mentioned by Corvisart, it amounted to two quarts. But instances occur in which it is altogether wanting, its place being supplied by concrete albumen, filling up entirely the pericardial sac. It also happens, though very rarely, that a purulent secretion only exists, among the most remarkable examples of which, is one by BAILLIE, of a quart of pus, and another by DUNCAN, of two pints and six ounces in the pericardium.* These different products, serum, albumen, and pus, are referrible to the several gradations of violence in the inflammatory process in the respective cases.

In the management of this disease, the indications are few and simple, and the remedies equally so, though in the application of them, the utmost decision and vigour are demanded. As of primary importance, venesection should claim attention—and to be effectual, must be urged to great extent—the limits of which to be determined only by unequivocal evidence of relief. On this point we wish to be the more impressive, since occasionally such is the state of pulse, and disposition to syncope, as might perhaps impose undue restraints on the practice. Cautions to this purport are moreover contained in most of the writers on the subject, well calculated to lead astray. As auxiliary to the general bleeding, leeches or cups ought next to be largely employed, and repeated from time to time, till the force of the attack is overcome, when a blister may be resorted to efficaciously. An attention to the bowels, further than merely to obviate constipation, is all which is exacted. During this period, if any irregular spasmodic action of the heart prevail, the appropriate remedy is opium by itself, or in the shape of Dover's powder. It cannot do harm, and we have seen much advantage from it, as well in this, as the serous inflammations of the lungs, under similar circumstances.

In the treatment the subsequent stages of the disease, great reliance is placed on digitalis, and the seminal tincture of colchicum, separately, or combined, and for the purpose either of quieting vascular irritation, or the promotion of absorption of the effused fluids in the pericardial cavity, are undoubtedly among the very best means, especially the first mentioned article, which we know to be eminently serviceable. More, perhaps, than any other medicine, does digitalis controul the circulation, and to this property chiefly, are its beneficial tendencies to be ascribed in, perhaps, all diseases. Granting this, which we think cannot well be denied, it follows, that it should be peculiarly adapted to the cardiac disturbances, and what thus seems plausible in speculation, has been amply confirmed on trial. It ought not, however, to be concealed, that in some instances, opium, calomel, and ipecacuanha, in small portions, prove even more effectual, though on the whole, less entitled to confidence.

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* Reeder, p. 28.

Concerning those cases, evidently dependent on gout or rheumatism, by metastasis, or otherwise, the course of proceeding is essentially the same. It may suffice, at present, merely to mention, that a leading object, more especially where a translation has happened, is to endeavour to invite back the disease to the original position, or the lower extremities, and which is to be done by stimulating pediluvia, sinapisms, and other irritating applications.

Chronic Pericarditis.—In most respects this has so close an analogy to the acute form of the disease, that it may be rapidly despatched. The symptoms are essentially the same, though when in an original state, milder, and its whole career is characterized by less rapidity and vehemence. It is usually attended by some febrile movement, a small, quick, corded, irritated pulse, which is sometimes vibratory, or even intermittent. The hand being placed over the heart, a jarring sensation may in some instances be felt. There is, however, seldom any palpitation, and never to any extent, though a sort of pulsatory sensation is often experienced in the epigastrium. Little or no pain is complained of in the region of the heart itself, and that little, when it does occur, is rather obtuse than acute, and is fugitive or unfixed. But sharp, and more permanent pain, is found in some portion of the abdomen, most frequently in the epigastric or hypogastric region—and when in the latter, produces, or is associated with, suppression of urine. This pain in the advanced stage, is sometimes so severe, as to be compared to the throbbing of an inflamed tumour. The stomach, as well as the head, occasionally suffers, the one being exceedingly irritable, and the other aching, giddy, or confused. Continuing for an indefinite period, months or years, the case progressively assumes a worse aspect, the countenance becomes pallid and doughy, the difficulty of respiration increases, even to dyspnœa, particularly on any exertion, or in a recumbent posture—œdema of the extremities appears, first of the left side, and then more general bloating, and if death does not abruptly happen, it ensues from emaciation and exhaustion. This is the portraiture of the disease as induced by ordinary causes. But when dependent on arthritic or rheumatic influence, it varies considerably. The pain in the heart is far more acute, greater anxiety and oppression at the præcordia are complained of, the palpitations are often so violent as even sometimes to be heard,[*] attended by strong pulsations of the carotids, the pulse more disturbed, and the respiration so affected, particularly by the recumbent position, or by any exertion, that the extinguishment of life seems to be menaced. The case, moreover, is distinctly paroxysmal, and controlled manifestly by states of weather.

In regard to the causes of this affection, they will be found to be very much the same as of acute pericarditis. But, perhaps, it is oftener of a rheumatic nature, which we are the more inclined to suspect, from the number of cases that have come under our notice in corroboration of the fact.

Embarrassing as is the diagnosis in the acute, even more so, is it frequently in the chronic form of the disease. The highest authorities confess, that there are no features of discrimination, implicitly to be trusted. Cases have occurred to them all, in which they were utterly deceived, and we presume, no candid practitioner who has had experience, will hold any other language. Laennec expressly says, that he has frequently found the pericardium full of pus, and in a true state of chronic inflammation, without ever having suspected it, and conversely, has seen it sound, when imagined to have been seriously affected. The external means of exploration shed no clearer light on the case. Notwithstanding this occasional obscurity of diagnosis, we must still think, that in a large proportion of instances, a careful investigation will conduct us to a correct inference.

That this is a disease of rare and difficult cure, it need scarcely be remarked, though not so intractable as to discourage our exertions. Of course, much depends on the stage of the case, and the degree of structural injury sustained. Even, however, where the organic lesions are considerable, recoveries do undoubtedly sometimes take place. Effusions into the pericardium are certainly removed, and often we meet with the firmest adhesions of that membrane to the heart where no inconvenience had been felt during life.† Corvisart, we are aware asserts that no person can live, and preserve a good state of health with such adhesions, which, however, is positively contradicted by Laennec, who has seen the contrary frequently, and the same is corroborated by our own experience.

In chronic pericarditis, may be detected usually, the morbid phenomena which we are now to describe. The phlogosis of the serous tissue is more extensive, and of a deeper red, than in the acute disease, and, the adventitious membranous exudation, is of much rarer occurrence, and when it does exist, is thin, soft, friable, resembling a layer of very thick pus. Effusions are always to be met with in the pericardial cavity, of a turbid milky fluid, sometimes of a puriform character, and in considerable quantities. The muscular substance of the heart itself undergoes a change in some instances, losing its colour, and becoming whitish, as if macerated for several days, sometimes with a retention of its natural consistence, though as often considerably softer. By most writers these alterations have been ascribed to inflammation, which is denied by Laennec, who alleges, that the only proof of the existence of that process in a muscular organ, is a deposition of pus among its fibres. But whatever may be the correctness of his opinion in the main, surely he is wrong in the latter assertion. That muscles may be phlogosed, without suppuration, we habitually see, from wounds, rheumatism, and other causes. Entertaining a great aversion to BROUSSAIS, he differs from him whenever he well can, and was probably seduced into this error by a spirit of opposition, the one looking to inflammation as the source of nearly all morbid appearances, and the other as constantly rejecting it from his system of causation.

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[*] Dundas, Med. Chir. Jour. Vol. I.

† Laennec, p. 265.

In determining on the treatment of this disease, we should be regulated very much by the stage of the case. Being far advanced, and the organization of the heart deeply impaired, our efforts must necessarily be limited to mere palliation of urgent affections. But under different circumstances, or where a hope of cure is entertained, another course is to be pursued.

As preliminary to every thing else, let a state of as much mental quietude, and bodily rest, as is attainable, and a diet of the smallest bulk, and the least nutritive and stimulating quality, be imposed, and most scrupulously observed. Lately it has been said, on the authority of Broussais, that asparagus has an exceedingly sedative quality, controlling in a remarkable degree, the moving powers of the circulation, without irritating the stomach,* which if found to be true, it will be a very appropriate article of food in these cases. It is steadily to be borne in mind, that the great purpose is to exonerate the heart, as far as practicable, from the labours of its office, and which will be best effected by the reduction of blood, by abstinence, and the careful avoidance of all extraneous irritations and excitements. Co-operating in the same design, those remedies which are calculated to subdue cardiac and vascular action, or relieve topical uneasiness, are to be brought into requisition. Need we state that these consist in general and local bleeding, with vesication over the seat of the affection. But where cups or leeches can readily be had, venesection for the most part, may be superseded.

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* See last Number of this Journal, page 499.

Nearly the same medicines are used here as in the acute disease, though we think, with decidedly superior advantage. The seminal tincture of colchicum is serviceable, the digitalis still more so, and a combination of opium and calomel should always be tried in unrelenting cases. It is highly extolled by the English practitioners, would seem to be suitable on general principles, and we have seen it serviceable, or we are much deceived. But in prescribing mercury, it should be very cautiously introduced, so as to escape all inordinate effects, and with this view, not more than half a grain, ought to be given, two or three times a day.

By undeviatingly pursuing this plan, for a length of time, we shall undoubtedly in some instances arrest the disease, and accomplish a complete cure. We have known it to succeed in several cases, and can, therefore, confidently recommend its adoption. That, however, justice may be done to it, all the parts should be made to concur, and it must not be too hastily abandoned in despair. Let the regimen correspond with the remedies, all harmoniously tending to the same end, and slight as the improvement may seem, receive it as adequate encouragement to further and unremitting exertion. It is well remarked by Boerhaave, that chronic diseases require a chronic treatment, and that an experiment of any course, cannot be considered as fairly made in less than three months. Not to adopt literally this sentiment, there may be deduced from it an admonition against precipitate fluctuations in practice, and a salutary lesson to diligence and perseverance, in the management of lingering and indomitable cases. There is one other precept of great importance, in relation to the management of this disease. Being of a rheumatic nature, which there is so much reason to suppose is often the fact, and according to our own observations, particularly in young persons, it is highly expedient to have the patient removed from an austere, to some genial climate. Equally benignant is such an influence over these cardiac, as the pulmonary affections. Cases which had proved utterly intractable, we have known to do well under precisely the same treatment, by a change to a more favourable residence.

As the occasional result of the preceding disease, we might here introduce some remarks on hydrops pericardii. But since this cannot be done advantageously without an examination of the general pathology of dropsy, which would lead us into a discussion very wide from our present purpose, we shall pass over the subject, and apply the residue of our space to the consideration of what may be properly viewed as the *organic affections of the heart.*

These have been recently multiplied to an inconceivable extent by a minuteness of division, which, however curious to the mere cultivator of morbid anatomy, serve rather to perplex, than to guide us more luminously in actual practice. Even admitting that these numerous, and infinitely modified affections, are susceptible of a precise recognition, it would not materially influence the treatment, one common plan being applicable to a large portion of them, and the rest, with some limited exceptions, are utterly irremediable. It is our intention to select out of this complicated mass, or assemblage of diseases, such only as we have the power of relieving, and must refer for further and more comprehensive intelligence of the subject, to some of the elaborate treatises on it which have lately issued from the press. But it may be useful, though not enabled to discriminate the nicer shades of cardiac affections, to have it in our power to distinguish them from other diseases, and happily, most of the organic lesions of the heart have so much of a commonalty of phenomena or signs, that the attainment is greatly facilitated. Cardiac disorganization of some sort may be strongly suspected, if not accurately determined, whenever there is a concurrence of the symptoms that we are now to enumerate. Being very expressive of such a condition, it may be stated, that the countenance is singularly bloated, with occasionally an intermixture of a purple hue, extending to the lips, which are sometimes exceedingly protuberant or tumid. Exceptions, however, often exist to this lividness of complexion, the face remaining throughout of a waxy palor, with œdematous swelling, particularly of the eyelids, and adjacent integuments. This condition, at first limited, becomes ultimately far more general, or may pervade the entire superficies—and the cutaneous veins throughout, are turgescent and distended. Connected with this, there are also in the advanced stage, effusions from the serous tissues of the internal cavities, constituting universal dropsy.

The respiration is habitually short and difficult, invariably aggravated by quick walking, ascending an height, or any other exertion, and by the indulgence of passion, or mental emotions generally. Not a little may also be learnt from the state of the digestive process. It is almost uniformly disordered, and, in some instances, reaches the highest degree of exasperated dyspepsia, with torpor of the bowels. As an effect, perhaps, of this gastric irritation, the temper and mind are considerably affected, denoted by petulance, melancholy, and even despair, becoming occasionally so intense, that we are told by some writers, suicide very commonly results from this distemperature.[*] It is, however, more from the state of the circulation, than any other function, that information is to be collected. The action of the heart is commonly, though not uniformly irregular, betrayed chiefly by palpitations, sometimes extremely violent, especially when under excitement, and at other times, not exceeding a moderate vibration. Equally various is the pulse, in some instances very strong, jerking, or intermittent, while on other occasions, it is weak, tremulous, or nearly imperceptible. By an application of the hand, however, over the heart, we shall generally discover that its dilatations and contractions are different from those of health, influenced of course by the nature of the lesion. Thus, in dilatations in general, the strokes of the heart are usually felt in a wide space, embracing much of the thorax, and extending even to the epigastrium, so as to be misapprehended for pulsations of the cœliac artery. In active aneurisms, as they are called by Corvisart, the strokes are frequent, regular, vibrating, and so vigorous, as that the hand placed over the heart receives a blow, and is made to rebound, while in the passive dilatations, these strokes are softer, slower, and equally regular in the interval of their return. The valves being contracted by ossification, or other causes, the strokes are intermittent, sometimes powerful for a moment, more frequently weak, with a sensation of rushing like water, or of undulation, or trembling, &c. When there is a degeneration of the fleshy substance of the organ into fat or bone, a softening of its fibres also takes place, and its strokes are slow, feeble, and may be almost insensible.[†] Nor is the venous circulation without some indications which demand attention. To an engorged state of the superficial veins we have before alluded, and may now remark, that in the larger ones, as the jugular particularly, there is a decided pulsation, frequently mistaken for that of the carotids, and evidently a confused tumultuous circulation in them, owing to the difficulty the blood encounters in returning to the heart. It is for this reason that heavy engorgements take place in the different organs, and consequent hæmorrhages, more especially from the lungs, the liver, and nostrils. But much as may be acquired by a careful survey of these several sources of intelligence, they will all, in many cases, either prove inadequate, or betray us into false conclusions, and it is to the new methods of investigation, by percussion and the stethoscope, that we are to look for any certainty. Even these means, as is candidly acknowledged by Laennec himself, in their application to the diseases of the heart, are liable to considerable fallacy, and that great skill, and much circumspection, are demanded in their use.*

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[*] Testa and Kreysig.

[†] Corvisart, p. 283.

Concerning the remote causes of the cardiac affections, we have already disposed of this part of the subject. Notwithstanding what is affirmed to the contrary by some, we are persuaded that most of these unite in the production of inflammation, either acute or chronic, and to the ordinary consequence of this process, are the organic lesions of the heart chiefly to be referred. Yet some of them seem to occur independently of it, or at least without its ordinary manifestations, and in such cases, consisting in new formations of structure, a vitiation of the nutritive functions, has probably taken place in some other way. As this may not be very clearly understood, we will endeavour to render it intelligible by a few words of explanation. It must be known, that in a perfectly sound state, as absorption removes the old matter, it is replaced by new acquisitions of precisely a similar character, moulded into a like shape, whereby an absolute identity of substance, as well as figure and size, are preserved. The processes of destruction and renovation are perpetually going on in the living state. Like the vessel of the Argonauts, which, in its tedious and perilous voyage, was so often repaired, that, on its return, no vestige of its original frame remained, so, in the progress of time, every part of our material composition is removed and renewed. To the steady, undeviating performance of this office are we indebted for the integrity and uniformity of our fabric in all its parts. Nutrition, however, becoming distempered, it no longer operates in this established order, and its products are correspondently affected. The nutritive is only the secretory function on an extensive scale, and as the latter, so is the former disturbed by morbid agencies. Granting the fact, that the one set of vessels do secrete, under certain influences, every variety of matter, from a simple serous fluid, to the most virulent poison, we can have no difficulty in conceiving how another description of them when deranged, may pour out all those various ingredients which enter into the formation of diseased structure. It is by such interstitial deposition of extraneous matter, that the character of the heart, or other organs, is altered, which, being heaped on, without the plastic hand of nature to model it, they are made to exchange their definite configurations and dimensions, for the rude and anomalous shapes occasionally exhibited.

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* Laennec, p. 598.

As one of the most curable of these affections, we shall commence with *hypertrophia* of the heart. By this term, according to its etymology, is to be understood an excess of nutrition, and as applied to the present case, an increase of the muscular substance of the organs by which its parietes become much thickened, in some instances, to an inch or more, with a vast augmentation of its general dimensions.

Its existence is denoted when in the left ventricle, by a very strong impulse between the cartilages of the fifth and seventh ribs, to which space the pulsations are circumscribed, and here the sound of percussion is dull. The impulse of the ventricle is considerably lengthened, where the hypertrophy is excessive, while the contraction of the auricle is correspondently short, and examined in the præcordial region, its sound is scarcely perceptible, though at the superior part of the sternum, and under the clavicle, it is loud and distinct, whereas the stroke of the ventricle is scarcely to be recognised in these positions. The pulse is usually vigorous and full, and the face contrary to what commonly happens in cardiac affections, has a red tinge. The hypertrophy being in the right ventricle, the stroke is stronger than natural—is perceived more plainly at the bottom of the sternum than between the fifth and seventh ribs, and on the right than left side of the chest:—and it is in this position that the resonance is dull on percussion. But when it exists in both ventricles, the signs of course of each are found, those of the right generally predominating.

As the main cause of this undue growth of the heart, all diseases which induce permanent dyspnœa are assigned, by which this organ is constantly excited to increased efforts to propel the blood through the lungs, and it is in the same way, that violent exercise of any kind habitually taken, may operate to a similar effect. No fact is better established than that any, or every muscle inordinately used, becomes larger, and hence it is that those of the arm in the pugilist, of the shoulder in the porter, and of the leg of the opera dancer, have such immense developments. But conceding this, we are still inclined to suspect rheumatism as the most frequent and direct cause.

The anatomical characters of these affections correspond to the nature of each. When the left ventricle is the seat of the lesion, its walls and the base acquire an increase of thickness and density, gradually diminishing towards its apex. But, in the right ventricle there is less of these changes, and the thickness is uniform throughout, except, perhaps, towards the tricuspid valves, and origin of the pulmonary artery. The cavity of neither ventricle is enlarged: on the contrary, very much reduced, agreeably to the statements of Laennec, in which respect, he differs from Corvisart, who asserts directly the reverse as the fact. But he is wrong, or at least our own dissections do not support him. Cutting into the muscular substance of the heart, it is found more firm and deeply coloured than naturally.

Next we are to consider the dilatation of the ventricles, entitled by Corvisart *passive aneurism.* It consists of an expansion of the cavities of the ventricles, with a proportionate diminution of their parietes. The indications of it, when in the left ventricle, are, the contractions of the heart giving a clear and loud sound between the fifth and seventh ribs, graduated to the extent of the injury, and if in the right ventricle, their resonance is to be heard more distinctly at the inferior portion of the sternum. The pulse is commonly soft and feeble, and the palpitations very slight. On pressing the cardiac region, the heart feels as if a soft body elevated the ribs, and did not strike these, with a sharp and distinct impulse.[*] It is here particularly that the veins of the neck are swollen, and the countenance of a purple hue.[†]

Bertin, one of the latest and best writers on the subject, is of opinion that this affection is always occasioned by some obstacle to the course of the blood, such as ossification of the valves, congenital narrowness of the aorta and pulmonary artery, the influence of certain employments which induce laborious efforts, and finally diseases of the lungs. But Laennec, while admitting these agencies, ascribes still more to original disproportions in the several portions of the mechanism of the heart itself.[‡]

The appearances on dissection may be conjectured from what has been said in the definition of the disease. The capacity of the ventricles is found to be augmented, and the thickness of their walls proportionally diminished, especially at the point of the left ventricle. But the dilatation is sometimes partial, being confined to a single part, and the substance of the heart is more or less deeply red.

The two states, however, of hypertrophy and dilatation, are occasionally blended in the same case, constituting the *active aneurism* of Corvisart. This compound affection is indeed more common than simple dilatation, and still more so than hypertrophy singly. It is under these circumstances of complication, that the heart attains to an enormous size, sometimes triple that of its natural dimensions.

Its most distinctive signs are a mixture of those of the elementary states of which it is composed. The contractions of the ventricles yield at the same time a strong impulse, and a very marked sound, and those of the auricles are also very sonorous. The stroke of the heart may be heard over a wide range of the chest, in thin persons particularly, below the clavicles, on the sides, and even towards the back. To the hand, the contractions of the ventricles are very perceptible, which is raised by the sharp, definite, and violent pulsations, and sometimes such is the vehemence of the action, that the head, limbs, and bed-clothes are obviously shaken. The general circulation is much disturbed, the pulse strong, hard, vibratory, and resisting, and the pulsations of the carotid, radial, and other superficial arteries, are frequently visible. But instead of the ventricles, it sometimes happens that the auricles are implicated in the hypertrophy, which, however, is comparatively a rare event. It is said to be distinguishable by the contraction of the auricle emitting a dull sound, in place of the clear one of health. But it seems to be allowed that from the rarity of the occurrence, it is not well understood, or its indications accurately ascertained.

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[*] Corvisart. [†] Martinet, p. 200. [‡] Laennec, p. 593.

We turn to another set of affections, the *indurations and concretions of the valves of the heart.* In the very commencement of these derangements, there is habitual dyspnœa, increased by exercise, together with palpitations, and when they become considerable, they may be known by the following signs:—The lesion being in the auriculo-ventricular openings, there is heard during the contraction of the auricles, which is then prolonged beyond its usual duration, a slight "bruit de rape," sound of the file, or a "bruit de soufflet," sound of a bellows. These phenomena are constant, the former depending on an osseous induration of the valves, and the latter on a cartilaginous or fibro-cartilaginous state. When the contraction is seated in the arterial openings, aortic and pulmonary, the sound is synchronous with the pulse, and contraction of the ventricles: if the left orifices, (the mitral valves, and the sigmoid valves of the aorta,) are concerned, the "*bruit de rape*, or *de soufflet*," is heard between the cartilages of the fifth and seventh ribs of the left side, while, if it occupies the orifices at the right side of the heart, (the tricuspid valves, and the sigmoid of the pulmonary artery,) the sound is most distinct at the lower part of the sternum. This murmuring or thrilling is in some instances, sensible to the hand placed over the heart, especially when the mitral valve is ossified, and the contraction of the left auriculo-ventricular opening is considerable.

In all these cases, the palpitations are frequent—the strokes of the heart generally intermittent, unequal, and sometimes very strong, while the pulse is small and concentrated, the face is of a violet colour, the limbs œdematous, and the dyspnœa to which we have alluded, progressively increases, till it proves fatal.

An inspection after death shows very considerable alterations in the valves of the heart. Their natural form is lost—they becoming coiled upon themselves in such a way as to contract the aperture over which they are placed, sometimes to a very small size. They also lose their primitive character, and are converted into fibro-cartilage, cartilage, or even bone, a part, or the whole, undergoing this change. These degenerations are most apt to occur in the tricuspid valves, or the sigmoid of the pulmonary artery.

In the valves of the left cavities, what are termed vegetations, are mostly to be met with, a sort of verrucæ or warty excrescences, of various forms and sizes, which interpose impediments to the closing of the valves, and as intimated, are generally to be found in the aortic or mitral valves.

To the affections of which we have given some account, many others might be added. Enough, however, has been said on the subject, to convey an impression of its complication and difficulties, and of the utter impracticability of doing justice to it in any narrow compass. Though we may not have succeeded, in clearing up its obscurities, some general information has probably been imparted, to awaken curiosity, to the further study, and more precise investigation, of this very interesting part of pathology. The publications regarding it are ample, and those by Corvisart, Burns, and Laennec, are of easy access, which, we hope, may be attentively perused, and deeply meditated.

It is fortunate, amidst this contrariety of morbid condition, that one and the same plan of treatment is applicable to nearly the whole of the varieties which may be presented. The leading principle, without the observance of which, every endeavour is frustrated and rendered nugatory, is to relieve the heart, as far as possible, of the labours of its office. To employ fully a diseased organ, is to increase its disease, and not more absurd would it be, to drive on a shattered piece of machinery, instead of checking it for the purpose of repair, than to force the heart, when thus crippled by its lesions. But the efforts of this organ cannot be spared during life, and it is reserved for us only to ease, or diminish, what may not be entirely suspended. Conformably to this practical precept, the indications are, to reduce the quantity of the circulating fluids, to avoid all irritants, and to maintain the utmost tranquillity and repose. As the most important of remedial measures, the loss of blood claims first to be noticed, and where the call is urgent, venesection should be preferred. But the circulation having been adequately emptied, and there is rather topical congestion, or excitement, than general vascular action, local bleeding may be very advantageously substituted. Concurring in this view, some of the sedative articles, or such as are calculated to calm irritation, and lessen the activity of the pulse, are not destitute of utility, among which, the digitalis deserves the greatest confidence, though the seminal tincture of colchicum, and the prussic acid, cautiously administered, are much prescribed. Nor are blisters, or setons, or issues, over the cardiac region to be neglected, as part of this plan. As material to the design, the diet must be duly regulated, as well as to quantity as quality, very little food being allowed, and that little, the least nutritious, and of the mildest description, devoid of all heating and stimulating tendencies. No less is it demanded carefully to guard against the pulmonary affections, which through the disturbance of the lungs, particularly agitate the heart—and since corporeal exercises, and mental emotions, have a similar effect, these are strictly to be restrained.

By such a course of management, we will not promise, that cures are to be accomplished with any certainty. The result must depend on the kind, and the degree of the lesion, some being utterly intractable where the change of structure is essential, or the case far advanced. But as these are points not readily decided, it is our duty to make the experiment, whenever there is, from the circumstances of the case, encouragement to it, and more especially, since, though it may not completely succeed, it affords the exclusive means of palliation and comfort. Many are the instances, in which, otherwise, life would be speedily lost, or wretchedly endured for a season, it has been protracted for a very lengthened period, and with comparative ease and relief. But, sometimes, we are rewarded with more distinguished success, and especially in hypertrophia, with or without dilatation, the most medicable of all these affections. In two instances, we have seen the heart of considerable dimensions reduced, and so many similar examples are on record, that the disease, no longer enumerated among the opprobria medicorum, is encountered with some confidence of overcoming it. As it arises from excess of nutrition, it is obvious, that the treatment we have suggested, so far as relates to the direct reduction of blood, and the withholding the supplies of nutriment, is to be carried to the utmost extreme, and perseveringly continued for months, and sometimes even for years. This is a matter about which no difference of opinion prevails, all the best authorities coinciding in recommending the practice, and holding out hopes of occcasional cures from a steady and resolute persistance in it. Nor ought we in despair to abandon the case, merely on account of its long standing, or manifestations of general or constitutional disorder. Even here, though there is less to be expected, something may be accomplished, if not entirely to relieve, to mitigate suffering, and protract existence. It usually happens, in the progress of this disease, that to the enormous organic growth of the heart, certain degenerations are added, among which hydropic effusions, with the general aspect of cachexy, most frequently are presented. Exactly such a case has been under our care for the last ten years, and by vigilance, and incessant attention, a fatal issue has been prevented, and at this very moment, there is a greater probability of recovery, than at any antecedent period. The heart is restored to nearly the natural size, all effusion has been removed, respiration is easy, the skin is resuming its floridness, digestion is tolerably well performed, and there is sufficient muscular strength, for the purposes of exercise on foot. To what is this amendment to be referred? Exactly the course was pursued in the early stage which we have proposed, and after the dropsical, and other cachectic phenomena appeared, purgatives and the diuretics were resorted to, still strictly adhering throughout to the same description of regimen, as we have so strenuously inculcated.

BIBLIOGRAPHICAL NOTICES.

Art. XI. *Beiträge zur genaueren Kenntniss und Unterscheidung der Kehlkopfs- und Luftröhren Schwindsuchten.* Von Wilhelm Sachse, Grossherzoglich Mecklenburg-Schwerinschem Leibarzte und Medicinal-Rathe. Mit Kupfern, Hannover, 1821.

Considerations relative to the Diagnosis of Laryngeal and Tracheal Phthisis. By William Sachse, &c.

"Hinc morbi exempla raro prescripta leguntur illiusque naturam accuratius indagare medicorum eo majis erit officium, quo plures hoc morbo miserime perisse constat," are the observations of the celebrated Thomann, (Annale, Tom. I. p. 165,) relative to the disease which has given origin to the work, the title of which we have just announced. If then this is the importance of the subject, we hope we may be excused in calling the attention of our readers to the efforts made by Dr. Sachse, to establish the diagnosis between laryngeal and tracheal phthisis. These diseases have, doubtless, constituted at all periods of the world, part of the afflictions to which mankind are subject, yet notwithstanding the numerous treatises on consumption, but little attention has been directed to the form of the disease with which we are at present concerned. It is true that we find, even at an early period, occasional references made to this affection of the larynx and trachea, yet it is only in modern times that any very successful efforts have been made to elucidate its pathology Amongst these attempts, that of Dr. Sachse should be particularly noticed, as it contains a more full and comprehensive exposition of the general characters and diagnosis of the disease, than any treatise on the subject with which we are acquainted.

The author treats first, of the general characters of laryngeal phthisis; second, of tracheal phthisis; and third, of the diagnosis of these two affections, as well as the difference between them and pulmonary consumption, and some other maladies with which they are liable to be confounded.

I. Laryngeal Phthisis.

Young subjects are by no means so liable to this affection as the middle aged the period comprised between the thirtieth and fiftieth year, being that which is most obnoxious to it. In a case observed by Percival, it took place as late even as the sixty-third year. The author thinks that the inflammation of the larynx seldom reaches the ulcerative point in children, because in consequence of the greater susceptibility of their constitutions, the patient is destroyed long before the disease reaches that point. In this sentiment, however, we cannot entirely concur, since numerous cases have occurred, in which ulcers of considerable extent have been found in the larynx of children who had died of chronic croup. This latter affection may, indeed, be considered as one of the predisposing causes of this form of consumption, as must also the angina maligna, which has been observed by Huxham, when long-continued, to terminate in consumption. Amongst the causes of laryngeal phthisis, must also be enumerated the scrofulous and venereal virus, the influence of sex, &c. I. Frank, who had frequent opportunities of witnessing the disease, as well at Vienna, as at Wilna, considered it as peculiar to the male. The observations, however, of Thomann, Albers, P. Frank, Horne, Sachse, and others, prove that it also attacks females. It is stated by the author that—

"It generally selects those who possess a very sensible skin, who are liable to erysipelatous and herpetic eruptions, and to superficial ulcerations about the neck."

"More or less hoarseness is usually the first symptom of the disease. It is generally considered, however, as merely the consequence of a common cold, and is consequently neglected; a conclusion in which the individual is often confirmed by the circumstance that the catarrhal symptoms are often relieved, or aggravated by the changes of weather. In a short time the patient complains of a slight uneasiness about the throat, which soon becomes changed into considerable pain, at first shifting, but afterwards fixed. This circumstance will at once prove that the case is not one of common catarrh.

"At an early period, there is an inconsiderable cough of the ordinary catarrhal character, which, however, as the pain increases, becomes more violent, shrill, sonorous, or even stridulous, as in croup: every attempt to take food or drink, especially a sudden effort to swallow fluids, exposure to the slightest smoke or exhalation, or a current of air, or even an inspiration of cold air, exposes the patient to a kind of spasmodic cough.

"There is at first no expectoration, or it consists merely of a frothy mucus, streaked with blood. Sooner or later, according to the progress of the malady, it becomes consistent, puriform, very offensive, and of a grayish-yellow colour. It is, nevertheless, small in quantity, and is generally brought up with much effort, especially in the morning. During the greater part of the day, it remains frothy, and is at times mixed with a considerable quantity of saliva, in which the particles of pus sink to the bottom of the vessel. In some cases, fragments of pseudo-membrane are brought up by a considerable effort, portions of cartilage; and it has been alleged that even one of the entire cartilages of the larynx has been discharged, having been detached by ulceration.

"At an advanced stage of the disease, the breath of the patient acquires an offensive odour, which, as the malady advances, becomes so insupportable, as to compel those who are exposed to it, to turn away their faces involuntarily. The respiration is generally free, and the motions of the chest for the most part unrestrained, yet the respiratory effort is occasionally interrupted. The patient feels as though the closure of the larynx interrupts the ingress of air; and this condition gives rise at first to a slight croupal wheezing, which, at a subsequent period becomes stronger and more sonorous.

"The voice is always hoarse, and finally becomes so feeble that it is with difficulty the patient can be understood. Indeed, in the morning, it is sometimes entirely extinct, and is only regained after the use of some warm drink. The pain is usually referred by the patient to some particular part of the larynx, being seldom diffused throughout the whole extent of that tube, but sometimes extending to the trachea or the root of the tongue, and keeping up a constant burning sensation in the throat; the pain is generally worst at night, and is increased by pressure, by every attempt to swallow, and by the cough. It is also exasperated by any sudden motion of the head, or by the act of speaking.

"As the disease progresses, deglutition becomes exceedingly difficult, so that finally the patient can scarcely swallow fluids, and is obliged to use such articles of diet as possess more consistence. Whenever he attempts to drink, a drop of water, by falling into the larynx, occasions such a violent spasmodic action of the parts, as to return the fluid by the mouth and nose. In attempting to swallow solids, small particles of the mass sometimes become lodged upon the painful part, and occasion great suffering. This accident is the more distressing, as it occasions a great sense of dryness about the throat, which creates a desire for drinks that cannot be gratified, on account of the reasons already mentioned.

"In some cases, a manifest swelling of the throat exists externally, which either corresponds to the whole extent of the larynx, or is confined to a small extent of that organ. This tumefaction extends, moreover, in some instances, to the adjacent glands of the neck.

"In the mouth, appearances are observed which have been hitherto overlooked, which nevertheless are important to be attended to, notwithstanding they do not exist in every case. The tongue, on the side corresponding to the seat of the pain, is covered from base to tip, with a thick, yellowish incrustation, which is accurately defined by the median line of the organ, beyond which it does not extend. The other half of the tongue maintains its natural red colour. The incrustation is generally yellowish posteriorly, but of a light colour, near the tip of the organ. The root of the tongue, moreover, frequently undergoes considerable alterations in the last stage of the disease: it becomes thicker, of a redder colour; its papillæ become prominent, and are smeared over with a whitish mucus, as though they were in a state of suppuration.

"At the commencement of the disease, there is sometimes no fever, or it is very slight, and comes on towards evening, with frequent, small pulse, and alternate chills and heat. The paroxysm does not last long, but soon declines, leaving the patient bathed with a profuse perspiration, which occasions a rapid wasting of the body. The influence of the disease upon the muscles of the larynx, tends to exalt their irritability to such a degree as to excite a spasmodic closure of the glottis, and thereby interrupt the entrance of the air into the lungs. Under these circumstances, the "*pabulum vitæ*" can no longer reach the vascular net-work which is expanded upon the air cells, and consequently, the bodily powers become so debilitated, the nervous energy so enfeebled, that the patient does not usually subsist long enough to be consumed by colliquative diarrhœa, but falls a victim to apoplexy or an anginose affection, or he dies in consequence of the nervous energy of the air tubes being so far overcome as to destroy altogether the relations between them and the muscles of respiration."

Such are the symptoms of this formidable malady, which, when it once fixes upon the system, suffers but few to recover from its ravages. Like consumption of the lungs, it is almost always fatal, recoveries being exceedingly rare, and seldom taking place in many cases, except those which owe their origin to the venereal virus.

Our author has been at considerable labour in selecting examples of laryngeal phthisis, a great number of which he has detailed with great care and precision. Examinations after death always revealed considerable alteration of texture about the larynx, which corresponded, in most cases, with the point in which the pain was located during the life of the patient. These consisted, for the most part, of inflammation, with extensive ulceration of the mucous membrane of the larynx, as well as of the cartilages, glands, muscles, and ligaments—the development of fungous excrescences, a general thickening of the parts, and a complete annihilation of their natural characters. Several of these alterations are represented in the plates which are annexed to the volume.

II. Phthisis Trachealis.

After the description of the disease of the larynx, the symptoms of which have been detailed, our author enters into the consideration of the second form of the disease, called tracheal phthisis.

This malady generally attacks those of middle age:—"Galen observed it in a young physician; Thomann in a female aged 29; Kraus in a woman of 36; Cayol met with it in one individual of 30, and in another of 49; Bayle mentions one of 39; Corvisart one of 40; Badham one of 47; Fouquier one of 50, and Morgagni one of 80 years. It is characterized by hoarseness, pain in the trachea, cough, expectoration, difficult respiration, and hectic fever: a part of which symptoms are also common to it and laryngeal phthisis." These two affections nevertheless, our author thinks, may be distinguished from each other, notwithstanding the opinion of Thomann to the contrary.

The most frequent cause of tracheal phthisis is, unquestionably, exposure to cold; a fact long since pointed out by Morgagni, who observes, that draughts of cold water, taken when the body is heated, produce consumption, not only by acting upon the lungs, but also upon the vessels of the trachea; it may also arise from suppuration of the adjacent glands, from blows, contusions, wounds, or even external pressure.

The voice is at first slightly hoarse; some patients complain of an indescribable sensation about the lower part of the trachea, which seems to affect the clearness of the voice, and which they endeavour to remove by hawking, or by an effort to cough. The natural timbre of the voice is, indeed, in almost every case, lost: it becomes rough, or hoarse, but seldom so much enfeebled as in the laryngeal phthisis. A distressing cough soon makes its appearance, which is increased during a meal, or by exercise. The expectoration is, at first, scanty, thin, and transparent: at a later period it becomes filiform, variegated with a yellowish puriform substance; and, more rarely, it is streaked with blood. In some instances it retains this character for a length of time, but gradually becomes, in the end, of an opaque, yellow colour, offensive to the smell and taste, and of a genuine purulent character, generally intermixed, however, with more or less of a frothy, transparent mucus; occasionally, when the disease has existed for a length of time, portions of the cartilaginous rings of the trachea and bronchia are brought up by a violent fit of coughing. This appears to have been noticed by Aretæus, inasmuch as he says, (page 86,) "asperia arteriæ circuli nonnunquam expuuntur ob ulceris varietatem, si abscessus alte penetrat. Raucescunt, breve spirant, gravem vocem edunt, &c."

The uneasy sensation in the throat, which tends to provoke the cough, is by that act converted into pain, which is not, however, confined to a point, but seems to be seated in the lower part of the trachea, on a level with the upper part of the sternum. When the cough is severe, the patient often places his hand, involuntarily, upon this region; and when there is no cough, he occasionally complains of a sensation which he compares to the act of pressing from within outwards. This feeling sometimes extends deeper into the chest, behind the sternum, but always inclined slightly to the left side. At first it is of transient duration; but is always increased towards evening, and interrupts the functions of the bronchia, the lungs alone preserving their freedom of action.

"The respiration is generally exceedingly difficult, so much so, indeed, that every two, three, or four days, the patient becomes affected with a sense of suffocation, which continues from a quarter, to two or three hours; even in the interval of these attacks, the breathing remains difficult, and is frequently accompanied with a kind of rattling, or wheezing. The rattle is particularly strong during the fit, and for some time before it comes on. When the patient attempts to speak, it is particularly observable at the end of each sentence, and seems to be owing to the presence of the mucus which occasions an obstruction in the trachea. Every bodily effort disposes to these effects of dyspnœa.

"The tongue is covered with a thick, yellowish incrustation; but the patient has generally a good appetite, and is not much emaciated. The deglutition is difficult, without there being any apparent inflammation of the throat. The patient does not experience any difficulty in engaging the morsel in the pharynx, but experiences pain when it passes the region in which the inflammation of the trachea exists.

"In most cases the patient dies before a well-marked hectic becomes established: instead of this, he experiences restless nights, a burning sensation in the palms of the hands, dryness of the skin; but all these symptoms are not so strongly marked as in other forms of consumption. The pulse is quick and febrile, but generally regular; it is sometimes different in the right and left arm. Towards the end of the disease there is often considerable swelling of the feet, a dark, red suffusion of the countenance, with a disposition to syncope. The patient can lie, with equal ease, on either side, but cannot rest easily upon his back. During the paroxysm of dyspnœa he is often compelled to set erect, with his head thrown forwards upon his breast until the difficulty of breathing passes away. For some time before death the paroxysms are less violent, and do not recur so frequently. In some cases death takes place suddenly, while the patient is in the act of changing his position, by which the matter, which had became collected in an abscess, finds its exit, and occasions suffocation. The patient dies of all the accidents of consumption."

These are the characters which, according to our author, characterize tracheal phthisis; an affection which, as well as that described above, has been, until within a few years, too much confounded with phthisis pulmonalis. It is divided, by him, into three varieties, according to the nature of its origin:—

1. "Primitive tracheal phthisis; or that which arises from the development of the suppurative process in the lining membrane of the trachea.
2. "Secondary tracheal phthisis; or that which is owing to abscess, induration of the glands, or to cysts developed in any part of the trachea, or its vicinity.
3. "Complicated tracheal phthisis, when it arises from ulceration of the throat."

It will be seen, from this division, that the disease may originate from several causes, of which some are intrinsic, while others possess an extrinsic character. But as regards ultimate results, this does not seem to be of much consequence, inasmuch as all the researches of our author lead to the melancholy conclusion, that the disease is very generally fatal under any concurrence of circumstances.

The anatomical characters of tracheal phthisis vary according to the nature of its cause. In most cases, however, the mucous membrane of that tube is found in a state of suppuration or ulceration; these conditions being either diffused or circumscribed, and confined to the membrane itself, or extended to the adjacent structures; as the cellular tissue, glands, cartilages, &c. We have already seen, that in some instances portions of the cartilaginous rings of the trachea are ejected with the expectoration; and it is by no means unusual, when the disease has been of long standing, to find them softened, eroded, and variously altered from their natural condition.

But we have yet to examine the most important part of the work before us; or that which relates to the diagnosis of the two affections which have been described. The author has treated this subject somewhat minutely, and has detailed, with considerable care, the several phenomena which serve to characterize the two diseases. The principal affections with which they are liable to be confounded, are, according to our author, thickening of the mucous membrane of the larynx, phthisis pulmonalis, aneurism of the aorta, caries of the os hyoides, and suppuration within the articulation of the atlas, with the dentatus. The diagnosis of each of these he considers separately; and we shall endeavour to follow him through his remarks.

I. DIAGNOSIS BETWEEN LARYNGEAL AND TRACHEAL PHTHISIS.

It has been affirmed by Double, who has written an excellent memoir upon the subject, that the two affections cannot be distinguished from each other. Sauvée and Cayol have attempted to point out some distinguishing characters, founded, mostly, upon the alteration of the voice and the seat of the pain. We think our author has been more successful in his attempt.

§ 1. *Alterations of Voice and Speech.*

PHTHISIS LARYNGEA.	PHTHISIS TRACHEALIS.
1. "The voice is hoarse from the commencement, and this condition increases as the disease advances; it becomes weak, scarcely audible, and finally extinct.	1. "The voice is but slightly, or not at all altered. The patient, more than the bystanders, is sensible of a diminution of the sharpness of its tones, and endeavours, by frequent hawking or coughing, to overcome the sense of obstruction, which he feels about the upper part of the sternum.
2. "The patient cannot speak for any length of time in a loud voice, but whenever he attempts it his voice gradually fails, and a tickling sensation about the larynx takes place, which occasions a spasmodic action of the muscles of that tube, and excites more or less contortion of the face, a disposition to sneeze, or interrupted respiration.	2. "The speech is rather accompanied with a kind of hoarseness, which, with some individuals, continues throughout their entire lives, and is as well marked as that which is observed in hard drinkers.
3. "The first words which the patient attempts to speak in the morning are articulated with difficulty."	3. "The articulation is the same throughout the day. It can only be altered by pressure upon the trachea or a change of position."

From this, it clearly appears, that the alteration of the voice is much greater in laryngeal than in tracheal phthisis, and that that circumstance furnishes one important means of distinguishing these two affections.

§ 2. *Pain.*

LARYNGEAL PHTHISIS.	TRACHEAL PHTHISIS.
"*a. Seat.* The upper part of the larynx, to which the patient applies his hand involuntarily, when the pain is considerable. It sometimes extends beyond this point, reaching the fauces, even when their natural aspect is unchanged, but seldom extending much downwards.	"*a. Seat.* Low down in the trachea, about the level of the bifurcation, seldom extending much upwards, but frequently reaching the bronchia, and manifesting itself behind the sternum. It seldom takes place in any other part of the chest, and then only when the diseased bronchia irritate the lungs by mechanical pressure.

"*b. Nature.* At first tickling, but afterwards acute and continuous, pricking, lancinating, or similar to the impression which would be made by penetrating the larynx with any foreign body.	"*b. Nature.* The pain at first is of the pressing kind, as though something was pressing from within outwards against the sternum. At a later period, when the cartilages become loosened, or when the disease proceeds from extrinsic causes, it becomes acute and lancinating.
"*c. Changes.* Aggravated by the cough,	"*c. Changes.* Aggravated by cough.
"By external pressure,	"By external pressure in an inferior degree.
"By an impure atmosphere, or one intermixed with irritating substances,	"But little affected by an impure atmosphere,
"By boisterous weather,	"Or by boisterous weather,
"By heating remedies,	"Or heating remedies,
"By speaking, riding, swallowing, and accidental inflammation,	"By rotating the head upon the neck.
"By gargling with mustard or vinegar,	"Not affected by stimulating gargles,
"By breathing with the mouth open during sleep.	"Nor by sleeping with the mouth extended.
"*Diminished* by emollient vapours.	"It is not diminished by emollient vapours.
"Duration. Generally continuous.	"Undergoes considerable remissions."

§ 3. *Cough.*

1. "Each fit of coughing is preceded by a sense of tickling about the larynx. This is followed by a dry cough, which is frequently neglected.	1. "It is not preceded by any tickling, but an effort to expectorate is succeeded by a dry cough, coming on in paroxysms, accompanied with great bodily exertion, and a sense of suffocation.
2. "It is excited by irritating gargles, by a damp, impure atmosphere, and by the use of acids. It is not excited by exercise, when the precaution is used to hold a handkerchief before the mouth.	2. "It is not excited by the first set of causes, but so readily by the last, that towards the conclusion of the disease, the patient is unable to take any exercise.
3. "In most cases, it is violent in the morning, until something is brought up by expectoration. It is also troublesome throughout the greater part of the day, taking place in form of short, spasmodic succussions. It can be removed by pressure upon the larynx, but a sneezing takes its place; the cough again returning when the pressure is removed.	3. "There is a slight teazing cough throughout the day, and at night it is so troublesome, as to deprive the patient of all repose.
4. "It is sonorous, and shrill, especially, during an inspiration. During an expiration, it is wheezing, as though the patient breathed through a contracted larynx; or it is somewhat croupal.	4. "It is not sonorous, but is deeper, more hollow, hoarser, and more rattling, than the cough in bronchitis, and is unattended with wheezing.

5. "In some cases, it comes on in strong paroxysms, which are brought on by the influence of external causes; much speaking, swallowing with precipitation, the presence of inflammation, the detachment of fragments of false membrane, or of pieces of cartilage.	5. "The cough is suffocating, interrupted, and attended with great succussion and pain in the chest.
6. "The cough is excited by the act of swallowing, and the food is thrown back in the incipient stage of the process.	6. "As the aliment approaches the chest, the rapid and incautious manner in which the individual attempts to swallow, tends to excite the cough, and the process is completed with more circumspection.
7. "During the cough, the patient seizes the larynx.	7. "He applies his hand to the lower part of the neck; to the seat of the pain.
8. "Whatever is brought up by expectoration, is without much effort, or with but little commotion of the chest.	8. "Expectoration brings great relief, and is only accomplished by considerable effort.
9. "The cough is easier at night, but is increased after rising in the morning. In the last stage of the disease, it becomes so troublesome as to deprive the patient of all repose, and can only be quieted by large doses of opium."	9. "Aggravated whenever the patient lies down."

§ 4. *Expectoration.*

In both diseases the cough is at first dry, but at a subsequent period, the expectoration becomes considerable, in consequence of the implication of the mucous follicles, and the ulceration of the mucous membrane.

Phthisis Laryngea.	Phthisis Trachealis.
1. "The quantity of the fluid expectorated is inconsiderable when compared to the extent of the general sufferings.	1. "The expectoration is much more considerable; partly, in consequence of the greater formation of purulent matter, and, partly, from its admixture with the mucous secretion.
2. "Sometimes it is bloody, but seldom presents that character.	2. "It is more fluid and mucous, sometimes intermixed with small fragments, which sink to the bottom. When the glands are affected, it is sometimes brown, intermixed with small whitish coloured particles.
3. "Sometimes it is mixed with small fragments of pseudo-membrane.	3. "The same thing is sometimes observed. Towards the conclusion of the disease, it becomes thick, opaque, and highly offensive; but is still intermixed with a frothy mucus.
4. Portions of cartilage are sometimes brought up, which seem to consist of some of those of the larynx, ulcerated and thickened. (See Morgagni, Hunter, Double, Sedillot.)	4. "The fragments of cartilage, which are brought up, resemble more a portion of one of the cartilaginous rings of the trachea or bronchia. (See Aretæus, Riverius, Raulin.)

5. "The expectoration is brought up rather by a slight teazing cough, seated in the larynx, than a full, deep cough, extending profoundly into the chest; or as Thomann has it: continuo excreavit sine tussi sputa puriformia," (p. 166-68.)	5. "The patient can designate the point, in the lower part of the neck, from which the expectorated fluid is brought up.

§ 5. *Respiration.*

PHTHISIS LARYNGEA.	PHTHISIS TRACHEALIS.
1. "The difficulty of breathing comes on by degrees, but when once established, continues for some time in that state, and is often croupal. When the dyspnœa is most strongly developed, the lungs remain free, and can be inflated with air if the spasm of the glottis will admit. Occasionally there are slight paroxysms of dyspnœa, which disappear, however, as soon as a little mucus is removed by expectoration.	1. "The respiration is often difficult, but does not preserve that character for any great length of time. Paroxysms of such violence take place, as to render it difficult for the patient to breathe, except in the upright posture. These fits come on suddenly, and sometimes continue several hours. They are, however, so little in relation with the progress of the disease, that towards its conclusion, they often become less frequent, and much milder.
3. "The respiration is irregular or interrupted.	2. "It is not interrupted by spasm.
3. "The breathing is shrill, frequently audible at a considerable distance, and wheezing, especially during an inspiration."	3. "The sound of the respiration is also altered; it is rougher, more rattling, or *bronchitic;* it seems to come from a depth, but the hoarse respiration is only observable during one of the fits of dyspnœa, when it can be heard at a considerable distance. In the last stage of the disease, the respiration is similar to that which is occasioned by the pressure of an aneurism of the aorta, upon the trachea."

These are the principal symptoms, which, by being compared with each other, and examined in relation with the individual affections to which they belong, are to enable us to distinguish between laryngeal and tracheal phthisis. Dr. Sachse has detailed several others, which, however, being less to be relied upon, we shall not examine particularly. They are sneezing, the mucous incrustation of the tongue mentioned above, disease of the fauces, difficulty of deglutition, palpitation of the heart, fever, salivation, emaciation, &c. Many of these, it will be seen, belong equally to both affections; and can be of but little use in forming a diagnosis between them. The characters which have been already detailed, will, however, be sufficient to enable us to distinguish the one of these affections from the other. We shall next consider the diagnosis between tracheal and pulmonary phthisis.

Although it often happens that the one or the other of the diseases we have been describing, exists while the lungs remain in a healthy condition, yet, in many instances, the lungs are at the same time involved. Under these circumstances, it is too apt to be inferred that the disease is not of a very dangerous character, while the lungs are not implicated, an opinion which the almost un-varying fatality of laryngeal and tracheal phthisis proves is far from being correct. To form a diagnosis between phthisis trachealis and phthisis pulmonalis, we must consider the several symptoms by which they are characterized.

1. *Hoarseness.*—Though it sometimes shows itself at the commencement and termination of pulmonary consumption, it does not, according to our author, constitute one of the essential symptoms of that disease. In proof of this, he states that an entire lobe of one of the lungs has been destroyed, without the patient evincing any hoarseness, and, indeed, scarcely any cough. It has been seen above, that hoarseness is a common symptom in laryngeal consumption.

2. *The Sensation about the Throat.*—There is seldom much uneasiness about the throat in pulmonary consumption; but the patient frequently complains of sharp pains in the chest, which are altogether wanting in laryngeal phthisis, and in phthisis trachealis only consists of a kind of sensation of forcing outwards, experienced directly beneath the sternum. In pulmonary consumption, where the upper and posterior part of the lungs are affected, in consequence of the exposure of the nerves of the lungs to the irritation, and their connexion with the intercostal branches, the patient complains of acute pain between the shoulders.

3. *Cough.*—It has been observed by Lieutaud and Morgagni, that in some cases of pulmonary consumption, the cough is entirely wanting. Dr. Sachse considers that such an occurrence is only possible where the ulceration is far removed from the bronchia. In pulmonary consumption, the cough is always worse in the evening, and is relieved by the perspiration which breaks out towards morning. In tracheal phthisis, on the contrary, the cough is most troublesome in the morning.

4. *Expectoration.*—In laryngeal phthisis the expectoration is usually scanty; in the tracheal form of the disease, when most abundant, it consists of a thin fluid, intermixed with striæ of purulent matter. In pulmonary phthisis, on the other hand, the patient is sensible of its coming from some profound part of the chest; it is more homogeneous, thicker, and more globular than in the disease last mentioned, and is, in some cases, intermixed with small fragments of disorganized tubercles, or even of the tissue of the lungs.

5. *Respiration.*—The respiration in pulmonary consumption does not present the croupal character which is observed in the other diseases; and in only a few instances does it present the paroxysms of dyspnœa which have been pointed out. "Je n'en ai pas un seul qui ont présentè les accès de suffocation, le rale et le sifflement de la respiration." (Cayol, 33.)

6. *Loss of voice, sternutation, difficulty of deglutition, outward tumefaction of the neck,* the *incrustation confined to one side of the tongue,* and the *disposition to grasp the throat during a paroxysm of coughing,* which are symptoms observed in laryngeal and tracheal phthisis, are not met with in pulmonary consumption; on the other hand, the *hæmopthisis,* the *phthisical conformation of the body,* the *purulent deposition in the urine,* the *wasting perspirations,* the *inability to lie upon the side,* the *frequent recurrence of pneumonic inflammation,* the *hectic blush on the cheek,* and the *dull sound of the chest elicited by percussion,* which are almost constant attendants on phthisis pulmonalis, are not observed in laryngeal and tracheal phthisis. In laryngeal phthisis, the respiration is inter-

rupted: in pulmonary consumption, the obstacle which opposes the full expansion of the lungs, renders it impossible for the patient to hold his breath for any length of time; and the expiration is consequently short and hurried.

7. The duration of tracheal consumption is much shorter than that of pulmonary consumption; the latter often continuing as many years as the former does months.

By attending to these circumstances, we shall be enabled in most instances to distinguish between the diseases in question. Yet, even with the greatest precaution, and the most acute discrimination, we shall be too often exposed to error. To this dilemma we shall, indeed, be always exposed, so long as we trust to the ordinary means of examining diseases of the chest; and it will only be by availing ourselves of the advantages of the stethoscope, that we shall be enabled to escape from these difficulties. We are, therefore, sorry to observe that Dr. Sachse seems to be unacquainted with the use of that invaluable instrument, or that he has not availed himself of the important indications furnished by it in establishing the diagnosis in these diseases.

We might next consider the diagnosis between the diseases already mentioned, and aneurism of the aorta, and the several other affections alluded to above. We have, however, already extended our observations so far as to render it necessary to bring them to a close. We have been induced to be thus minute, because, in the first place, we considered the matter of Dr. Sachse's work to be highly interesting, and, in the second place, because it purports to be a continuation of the very able work of Wichmann, Ideen zu einer Diagnostick, 3 Bde. 8vo. Helwing, 1794, 1802. In both respects we find much to commend, yet we think the author has indulged in numberless minute details, which would have been better omitted, as not leading to any very valuable conclusions.

While we are on the subject of diagnosis, we cannot forego the opportunity thus afforded us of expressing our regret that we have not in the English language, a single work, proper to aid the student in this most difficult and important part of his medical education. It is true, the work of Marshall Hall contains much that is useful; but it is too defective, in both matter and arrangement, to supply the wants of the student, and can never be relied upon as a guide in this department of study. In France and Germany, where the subject of diagnostics is made an object of special study, several works of great merit have been published on the subject. In the former country, those of Landré, Beauvais, (Semiotique, Paris, 1818,) and Double, (Semiologie Generale, 3 vol. Paris, 1811, 1822,) are highly commendable; and in the latter, the works of Wichmann, Schmalz, (Versuch einer Mediz-Chirurg. Diagnostik in Tabellen, Hal. 1816,) and Hufeland, (Conspectus Morborum sec. ord. nat. adjunctis characteribus specif. Diagnosticis, 1819,) have supplied what is so much wanted by the English and American student. It is too much the practice, under our present defective system of medical instruction, for the student merely to attend to the heterogeneous string of symptoms which are appended by authors and teachers to each malady, and to lose sight entirely of the proper value of each of these symptoms, as well in determining the precise seat of the disease, as its nature and the extent of its complications. Yet this is a kind of knowledge which we regard as of the most vital importance to the practitioner, and he who is destitute of it, cannot, we maintain, practice his art with success, or even safety.

E. G.

XII. *Researches; principally relative to the Morbid and Curative Effects of Loss of Blood.* By MARSHALL HALL, M. D. F. R. S. E., &c. London, 1830. pp. 303. 8vo.

The principal object of this work, as stated by Dr. Hall, is to apprise the inexperienced of some unexpected phenomena arising from loss of blood—of the remarkable difference of tolerance or intolerance of loss of blood in different diseases—of the equal danger of an inefficient and undue use of the lancet—and of a rule which may be adopted to obviate this danger. Dr. Hall also attempts to establish a distinction between irritation and inflammation in their respective effects on the system.

The work is divided into two parts, with appendices to each. The first treats of the morbid effects of loss of blood; and the second of the curative effects of this evacuation. We shall briefly examine each of these.

The detraction of blood is perhaps the most common mode resorted to in this country for arresting the progress of inflammations, and for relieving certain morbid affections, and yet there is scarcely any one subject connected with the practical duties of our profession, that has received less attention than that of the due institution of blood-letting. In fact, in the detraction of blood we have been wholly acting on empirical principles; and the lancet has been in too many instances employed or withheld without the physician being able to assign just grounds for his practice. But we will not attempt at this time to enter into any general consideration of this important topic, but will restrict ourselves to following Dr. Hall in his observations. The morbid effects of loss of blood, he observes, may be divided into the immediate, and into the more remote. The first, besides syncope, from its slightest to its most fatal form, includes delirium, convulsions, and coma. The latter comprising the states of excessive reaction, of defective reaction, of the gradual failure of the vital powers, and of more rapid or sudden sinking or dissolution. The latter have not received a sufficient degree of attention; we know of scarcely any author that has described them with accuracy.

Under the head of the immediate effects of loss of blood, Dr. Hall first treats of syncope, the most familiar of all its results. This state is so well known that little that is new or interesting can be said on it. After syncope, convulsions are perhaps the most frequent consequences of a flow of blood. These are most apt to occur in children, and in cases of slow and excessive detraction of the circulating fluid, and always denotes that the remedy has been urged beyond a safe degree: the same may be said of delirium, but it is important to remark that this latter state may ensue where a small quantity only of blood has been abstracted, depending on what Dr. Hall terms intolerance of loss of blood, or a morbid susceptibility to its effects. The other immediate effects of loss of blood are coma, and sudden dissolution; the first of these may mislead a cursory observer, from its resemblance to apoplexy, but an attentive survey of the symptoms will always make the case clear.

The more remote effects of loss of blood, are—1st. Exhaustion with excessive reaction. It is well known to every practitioner that exhaustion may assume several different characters. It may be attended with excessive, or with defective reaction, or with actual sinking of the vital powers. That, following ordinary syncope is generally a simple return to a healthy state of the functions, or nearly so, the pulse not passing beyond its natural frequency. But where the hæmorrhage has been profuse, the recovery is not so uniform, and the pulse may acquire and retain a morbid frequency for a certain length of time, which gradually subsides; but where exhaustion is induced by repeated blood-lettings, all the symptoms of an excessive reaction may supervene; these are very well detailed by Dr. Hall, and deserve close attention. In this state of exhaustion, sudden death has ensued from muscular exertion on the part of the patient, or from his being rapidly raised from a recumbent posture.

2d. Exhaustion with defective reaction. This occurs most frequently in infants, in feeble persons, and in rather advanced years; this state either gradually yields to returning strength, or subsides into sinking; by this is meant a state of positive and progressive failure of the vital powers. One of the first indications of it, says our author, "is to be found in the supervention of a crepitus in the respiration, only to be heard at first on the most attentive listening, but gradually becoming more audible, and passing into a rattling in the bronchia and trachea." This state, Dr. Hall thinks, involves a greatly impaired condition of the brain, and may be compared in certain points to that induced by apoplexy, or from dividing the eighth pair of nerves. This opinion is confirmed by the observations of Andral, who says that the lungs present similar appearances to those of animals in whom the pneumogastric nerves had been divided, or of individuals who died apoplectic.

It sometimes happens "that the most prominent symptom in exhaustion from loss of blood is a state of amaurosis." This has been observed by several writers, but more especially by Mr. Travers, from whose work Dr. Hall makes a copious extract, of which practice he is too fond, for instead of merely mentioning that his opinion is confirmed by certain authors, he loads his pages with their cases and arguments at full length. He thinks that the symptoms of exhaustion with reaction have frequently been mistaken for those of inflammation, and that recourse has too often been had to the further detraction of blood. This is the more likely to ensue, as all the symptoms are greatly relieved by it for the moment, though eventually they return in a more aggravated form. It should be observed, that in cases of exhaustion with reaction, syncope is very soon produced by the further loss of blood, and should always be regarded as a warning against the further and inconsiderate use of the lancet. Where the detraction of blood is repeated still further, not only syncope, but a state of sinking is induced, which is either rapidly followed by dissolution or by a gradual failure of the vital powers.

As relates to the influence of various circumstances in opposing or inducing the phenomena of exhaustion in cases of loss of blood, Dr. Hall remarks, the first and principal is that which relates to the strength of the patient, as, cæteris paribus, the degree of reaction is in proportion to it. Thus, in infancy, in declining years, and in the feeble in constitution, there is defective reaction after loss of blood, and the state of syncope is always one of danger, whilst repetitions of venesection are usually borne with difficulty. In youth, and in the vigorous and robust, on the contrary, the reaction is strong, and especially marked after repeated bleedings.

The other circumstances which exert an influence on the effects of loss of blood are certain states of disorder, but as the author discusses these at more length in a subsequent part of his work, we will not notice them at present.

Dr. Hall seems to think that there is reason to suppose that a state of exhaustion from loss of blood may lead to effusion into the ventricles of the brain, and that such a state is no protection against an attack of sanguineous apoplexy; the latter of these positions he supports by the authority of Denman and Hey, and details some cases from them in corroboration.

> "After the brain," says our author, "it becomes necessary to examine the condition of the lungs, and it is by the stethoscope, that the very first symptoms of sinking from loss of blood will be discovered. The bronchia first become clogged, the lungs become œdematous, and the arterialization of the blood is defective."
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> "The state of flatulency, sometimes almost amounting to tympanitis, and the fœtid evacuations of the intestines, sufficiently denote the morbid condition of that internal organ."

Dr. Hall next proceeds to the consideration of the treatment of the effects of loss of blood, which he properly observes must be resolved into that which is general or constitutional, and that which is local, and must vary according to the peculiar state or stage of these effects.

> "When syncope assumes a dangerous form, the principal remedies are, an attention to the posture of the patient, stimulants, and chiefly brandy and the transfusion of blood. The effect of posture is not even now fully known. It would be easy to allow the patient to lie over the edge of the bed, the head low upon the floor, and the feet greatly raised. In this manner such pressure would be restored to the encephalon as would in many cases support life, until other remedies being administered the patient might be placed out of immediate danger."

This appears to us to be carrying the matter too far, for although a low position of the head is certainly advantageous, this hanging a patient with his head down, would, we are inclined to think, substitute greater evils than those it was intended to remove.

We need make no observations on the importance of diffusible stimulants in such cases, their efficacy is too well known to every practitioner to need comment.

As regards transfusion, Dr. Hall does not give any decided opinion, though, from the tenor of his remarks, we presume that he is in favour of it. He justly observes, that it too frequently happens that the proper period of adopting this measure is allowed to escape. Notwithstanding the cases which have been latterly detailed, in which transfusion was resorted to, in cases of uterine hæmorrhage, with apparent success, we are by no means persuaded that this remedy is as efficacious as its advocates appear to think it. In some of the cases it is very evident that the recovery was more attributable to the natural reaction of the system, than to the small quantity of blood injected into the veins.

In all these cases of syncope, a due attention must be constantly paid to assist the arterialization of the blood by the admission of fresh air, and to sustain the natural heat by proper clothing, and especially warm applications to the feet.

In cases of excessive reaction, "the remedies appear to be, first, extreme quiet of body and mind, then the mildest sedatives, especially the hyosciamus; thirdly, the mildest nutriments; and lastly, and above all, time. It may be necessary to subdue the throbbing action of the head by local blood-letting, and it is remarkable how small a quantity of blood being taken will relieve. Two or three leeches are frequently quite sufficient. But the most unequivocal remedy is a cold spirituous lotion, applied over all the head by means of a cap consisting of one fold of a stocking."

In the administration of diffusible stimulants in exhaustion with sinking, Dr. Hall remarks, that great caution is requisite. Too much stimulus would hurry the action of the heart. The proper criterion for their use, is, that they should allay the morbidly increased action of this organ. For this purpose opium has also been recommended, but it should be given in small doses, and its effects closely watched

The first appendix to part the first is devoted to the consideration of the similarity between loss of blood, and the bloodlessness of chlorosis. These two diseases, Dr. Hall observes, resemble each other in many particulars, as the general symptoms, the tendency to affections of the head resembling arachnitis, and to affections of the heart simulating organic diseases of that organ; the condition of the general surface, of the capillary and larger circulations, the proneness to œdema and serous effusions.

The differences that exist between them arise from the different modes of their accession, the loss of blood being a simple event, whilst the bloodlessness of chlorosis is the gradual effect of a previous state of complicated disorder. Dr. Hall supports this opinion by some cases, which prove we think little more than, that in the advanced stages of chlorosis there may be effusion in the brain or thoracic cavity, as the case of sudden death was attended with similar circumstances as those occurring from hydrothorax.

The second appendix, on a hydrencephaloid affection of infants arising from exhaustion, is extremely interesting. This subject appears to have attracted much attention from the author, and has also been treated of by Dr. Abercrombie in his "Researches on the Diseases of the Brain and Spinal Marrow," and Dr. Gooch in his recent work on "Some Diseases Peculiar to Women." This form of the disease having received little notice in this country, we shall give a full analysis of this portion of the work.

After premising that certain diseases of children appear to be well understood, Dr. Hall goes on to say, "but there is another source of disorder in infancy, less frequent perhaps in its operation, but not less important in its consequences, and far less understood by medical men, in exhaustion. This exhaustion has its origin in early infancy, chiefly in diarrhœa or catharsis; in the later periods of infancy, in the loss of blood, with, or without the relaxed or evacuated condition of the bowels."

He is also of opinion that the greatest proportion of fatal cases of disease in infancy, are attributable to an undue application of exhausting remedies. This is true to a certain extent, but not to that laid down by our author; we have been too apt in our treatment of infantile diseases, to think that we have fulfilled our duty, if we have bled and purged enough, when perhaps we have been exasperating irritations of some of the tissues that would have subsided without danger or difficulty under a milder course of practice.

Dr. Hall divides the disease under question, into two stages, that of irritability, and that of torpor; in the former there appearing to be a feeble attempt at reaction, and in the latter a complete prostration of the nervous powers. This morbid affection is usually induced by some derangement of the chylopoietic viscera, as diarrhœa, exasperated by the too free use of purgatives. The child "becomes irritable, restless, and feverish, the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise, there are sighing, moaning during sleep, and screaming, the bowels are flatulent and loose, and the evacuations are mucous and disordered." In such a state of things, if the nature of the affection be mistaken, and evacuations persisted in, the subsequent exhaustion is apt to lead to a very different train of symptoms. "The countenance becomes pale, and the cheeks cool or cold, the eyelids are half-closed, the eyes are unfixed, and unattracted by any object placed before them, the pupils unmoved on the approach of light, the breathing, from being quick, becomes irregular, and affected by sighs, the voice becomes husky, and there is sometimes a husky, teasing cough, and eventually, if the strength of the little patient continue to decline, there is crepitus or rattling in the breathing, the evacuations are usually green, the feet are apt to be cold." In these cases, as in those in which the strength of the child has been subdued by an undue abstraction of blood, stimuli are absolutely required; a treatment founded on an erroneous idea of a primary cerebral affection, only adding to the danger.

In all cases of hydrencephalus we should be upon our guard not to mistake the stupor or coma, into which the state of irritability is apt to subside, for the natural sleep, and an indication of returning health.

The remedies for this morbid affection are such as will check the diarrhœa, afterwards regulate the bowels, and restore and sustain the strength of the little patient. In the state of irritability the warm bath is a remedy of great efficacy, and during the coma, blisters or sinapisms to the nape of the neck are of service. In every case the extremities are to be kept warm, and the circulation in them promoted by frictions. The patient should never be suffered to assume an erect posture.

Dr. Hall gives some extremely interesting cases occurring in his own practice, and that of others, strongly corroborative of his opinions on this subject, and we regret that our limits will not permit us to subjoin them. This question, and that of exhaustion in children, open a wide field for investigation, as they are not only imperfectly understood, but highly erroneous opinions exist on them.

The two next appendices, on exhaustion arising from other sources besides loss of blood, and that from abstinence, are very short, and contain nothing deserving of notice. The last, on the state of sinking, however, is worthy of attention, as it relates to a subject which, though familiar to every practitioner, is one on which no settled opinions appear to exist, and yet it is of the utmost importance to distinguish this state, both on account of the prognosis and treatment.

"Amongst the first effects of the sinking state, is frequently the subsidence of some painful symptom as delirium, cough, or even pain itself, into a state of ease, or perhaps of dosing. This event is continually mistaken by the patient and his friends for a favourable alleviation of the disease; the physician himself even may leave his patient in hope, may raise the hopes of relatives, and may even propose to postpone his succeeding visit under this false impression, when perhaps the patient is dosing to awake no more."

In cases of sinking from exhaustion, there is obviously a failure of the powers of the whole nervous and secretory systems, manifested by its effects on the functions of the brain, heart, lungs, and intestinal canal, but where this state occurs from oppression of the brain, the mechanism of respiration is chiefly affected; and when the sinking arises from a clogged state of the bronchia and air cells, there is manifestly a defective arterialization of the blood; and lastly, if it takes place in certain affections of the stomach and bowels, as gastritis or enteritis, &c. there is great, and oftentimes sudden failure of the circulation, indicated by an extremely small pulse, with a cessation of pain.

A correct view of this subject is extremely important in making a prognosis, and the physician should be fully aware of the fallacy of some symptoms of apparently a favourable character. Dr. Hall is of opinion that one of our best guides is the presence or absence of the crepitous rattle hitherto spoken of. "From the moment," says he, "this peculiar symptom is observed, it may, as far as our present means extend, be regarded as of fatal omen." In this we do not agree with him, at least to this extent, as we have seen more than one instance of recovery after this symptom had been fully established, though there can be no doubt but that it is, in most cases, a peculiarly bad omen.

There are several other symptoms besides the crepitus, which usually attend this state. "These are a species of inflammation of the conjunctiva, arising I believe from the eyes being for a long time imperfectly closed; great and irregular frequency, and a feebly vibrating character of the pulse; dosing; sighing in the breathing; difficult digestion; a tympanitic tumidity of the bowels; retention of urine, and involuntary evacuations."

Part the second, embraces the consideration of the curative effects of loss of blood.

It is well known to every practitioner, that patients of similar strength and constitution, but affected with dissimilar diseases, are differently affected by a sanguineous evacuation. Some will faint before four ounces are taken away, whilst others will bear fifty or sixty without syncope being induced. The rationale of this is to be found in connexion with the fact of the different susceptibilities of the system induced by different diseases.

Dr. Hall has given the following scale of these properties.—

"Persons in health, and of moderate strength, will generally faint, if bled in the erect posture, on taking fifteen ounces of blood. I have known seventy to be taken in the sitting posture, in the tendency to apoplexy without syncope, but the case is an extreme one. Patients with pleuritis or pneumonia frequently lose thirty-five ounces, without fainting. In bronchitis little more is borne to be lost than in health. A stout person in fever will frequently faint on losing ten, twelve, or fourteen ounces of blood. In intestinal irritation, with urgent symptoms even, the abstraction of nine or ten ounces will generally induce deliquium. In delirium tremens, or puerperal delirium, the patient soon faints from loss of blood, The same thing is still more observed in those cases of violent reaction which arise from the loss of blood itself. In dyspepsia, hysteria, and chlorosis, the susceptibility to syncope from loss of blood is very great."

Dr. Hall thinks that the quantity of blood which flows, when a patient requiring full blood-letting, is placed upright and bled to deliquium, is accurately proportioned to the exigencies of the case, and the powers of the system. This rule is also suited to the degree and duration of the disease, for, with each of these, its influence in inducing tolerance or intolerance of loss of blood is respectively augmented.

As much injury has been done by an inefficient, as by an undue use of the lancet; from both these extremes, Dr. Hall says the rule just alluded to will guard us. An important question relates to a repetition of blood-letting. But we may lay it down as a rule, that it should be prompt, according to the tolerance of loss of blood in the previous venesections. It is never safe to bleed to deliquium in a recumbent posture, as more blood may be abstracted than comports with the real exigencies of the case.

Dr. Hall next enters upon the consideration of particular diseases in their relation to the loss of blood, and the first he notices is fever, the theory of which he does not appear to clearly understand. His idea is, that fever differs from inflammations, in being an affection of the whole nervous and vascular systems, instead of an affection of these systems in one part or organ. We shall not, however, attempt in this place to enter into a discussion of this knotty point, but will confine ourselves to the subject of blood-letting alone. "There are three circumstances in fever," says our author, "which should lead to the use of the lancet. The first is, excessive reaction of the vascular system; the second, much excitement of the nervous system, especially violent delirium, and the third and the most imperative, the existence of local inflammation." The two first require the lancet to be used with great caution, but in the latter it may be used freely.

In inflammation, a state of the system is induced, which protects it from the influence and effects of loss of blood; it in fact acts as a concentrated and permanent stimulus, in exciting and maintaining the powers of the system. Even syncope does not remove it, but merely subdues the constitutional effects of this stimulus.

Dr. Hall is not an advocate for pushing the abstraction of blood to actual syncope, but only to the first signs of its approach, and highly deprecates the use of the lancet, after the inflammation shall have been subdued.

His next chapter is on irritation, which we must confess we do not clearly comprehend; his ideas on this subject are so much at variance with all physiological facts, that it is difficult to ascertain what he really means by irritation. We will, however, give his views, and leave our readers to draw their own conclusions.

> "The most frequent cause of this affection is a disordered state of the contents of the colon, the next is some indigestible substance taken into the stomach, with some superadded cause, some shock sustained, or some effort made by the system, which rouse into activity the cause of irritation otherwise dormant. The effects of intestinal or nervous irritation, are chilliness, varying from coldness of the extremities to extreme rigor, followed by great heat of the surface, and symptoms resembling those of arachnitis or peritonitis, singly or suc-

cessively in their most acute forms, but especially arachnitis; more rarely there is pain resembling that of pleuritis; more rarely still, a peculiar pain passing along one side of the neck to the shoulders, and occasionally, generally after blood-letting, there is palpitation of the heart."

These symptoms, he says, have usually been confounded with inflammation of the organs chiefly affected, to the great injury and even danger of the patient, particularly in that form resembling arachnitis.

The forms of this morbid affection, which simulate peritonitis and pleuritis, are equally characterized by alternate chill or rigor, and heat, frequency of the pulse, and susceptibility to the effects of loss of blood.

Dr. Hall then proceeds with a further detail of its symptoms:—

> "It generally begins in the manner of a sudden attack. This attack is usually ushered in by rigor, indeed by a more distinct and decided rigor than is observed in many cases of inflammation; the rigor is usually soon followed by much heat of surface; with the heat, the patient experiences some affection of the head, chest, or abdomen, and indeed, frequently of all; there are vertigo on raising the head, pain and some morbid impression on the mind, panting in the breathing, fluttering about the heart, with general hurry, irritability, and restlessness; the tongue is white and loaded; the alvine evacuations are morbid, dark coloured, fœtid and scybalous, or yellow like the yolk of an egg, or of the appearance of yeast; the urine is turbid and frequently deposits a copious sediment. The affection of the head consists of the most acute pain, the greatest intolerance of light and sound, and the severest form of vertigo; wakefulness, and distress, and sometimes even delirium, and the pupils of the eyes are often extremely contracted. The affection of the chest is denoted by severe and acute local pain, which is apt to vary its situation, passing from one side to the other, or to the back, or occupying a situation higher up or lower down."

When the abdomen is affected, there is acute pain and tenderness on pressure, both of which Dr. Hall is of opinion, are not invariable pathognomonic signs of inflammation. If the heart be the seat of this disease, there are violent and terrific attacks of palpitation, both in this organ and in the carotids and abdominal aorta.

The mode of treatment he recommends, is a full evacuation of the stomach and bowels, anodynes, light nourishment, and certain local remedies, as cold lotions to the head, and fomentations and liniments to chest or abdomen. The lancet, he thinks, is scarcely ever needed.

The next subjects of discussion are, accidents and operations. In these, his observations deserve attention, as practitioners are too apt to bleed before a reaction of the system is established. The lancet should never be used after any severe remedy, during the continuance of the collapse of the system.

As regards the due institution of blood-letting, Dr. Hall makes some just remarks, though they are in general a repetition of those we have already quoted. With respect to the time when this operation should be practised, there can be but little doubt. Where a disease requiring this evacuation is formed, the sooner it is resorted to, the better. A single bleeding at this time is more effectual, and much less dangerous than if delayed, besides which, less blood is required to be drawn to answer the desired end.

The necessity and propriety of a first blood-letting must be determined by the diagnosis of the disease, and a due estimation of the powers of the patient; this being determined, the next question is, what quantity should be taken? This can only be solved, in many cases, by watching the effects of the loss of blood as it flows. "And yet the usual mode of proceeding is, to prescribe the quantity of blood to be drawn, and forthwith to leave the patient in the hands of one from whom, however competent, the right, or at least the freedom of judgment is thus preposterously taken."

We have long been of opinion, that the usual practice in our large cities, and particularly Philadelphia, of leaving the patient in the hands of a mere bleeder, is fraught with evil consequences. Venesection, to be attended with its full effects, should always be employed under the eye of the practitioner himself. It is almost impossible for any one to decide what quantity of blood it may be necessary to abstract, by *a priori* reasoning.

The rule laid down by Dr. Hall, may obviate some of the evils arising from this mode of practice, though even this cannot supercede the necessity of a physician being present at the operation. His rule is to place the patient in an erect posture, and to make a moderate-sized orifice, permitting the blood to flow until incipient syncope occurs. The administration of the remedy is thus accurately suited to the nature and degree of the disease, and to the powers and susceptibilities of the patient. There are some limitations and exceptions to this rule which require to be noticed. Thus the case may be so mild as not to require so great an abstraction of blood. It is also requisite to observe whether the patient's feet are warm; otherwise less blood may flow in inducing syncope than will be required to subdue the disease. There is also danger in bleeding to syncope from a small orifice, as a much larger quantity will be required to produce this effect than is consonant with safety.

In determining the question of the propriety of a repetition of blood-letting, many circumstances must be taken into the account. But we may assume as a general rule, as long as blood-letting is required it can be borne, and as long as it can be borne it is required. Dr. Hall very justly thinks that little reliance is to be placed on the appearance of buff upon the blood. It is always a fallacious guide as regards the repetition of venesection.

Dr. Hall very properly protests against the use of the lancet as a preventive of disease. Of all cases in which blood-letting has been employed, none is so replete with danger. The lancet should never be used until the appearance of symptoms requiring its employment.

> "Local blood-letting may be regarded in three points of view. First, it is useful as an auxiliary to general blood-letting in cases of inflammation; secondly, it is proper in some cases of irritation, in which general blood-letting could not be borne; and thirdly, it may be required in cases in which general blood-letting would be fatal."

The last chapter is on blood-letting in infancy and childhood. Children are more susceptible than adults to the insidious and often fatal effects of loss of blood, and require it to be used with great caution.

> "The proper mode of abstracting blood in infants or children, whether by leeches, cupping, or venesection, is to place the little patient upright, and watch

the countenance. On the first indication of palor or faintishness, the flow of blood must be stopped."

Dr. Hall has subjoined a plan of a register of cases of blood-letting, which would be a most useful record, if properly kept; and we cannot recommend such a detail of facts, to practitioners in too high terms. It would do more to place the practice of venesection on a firm and useful basis than any other that could be devised.

It will be seen that we have been much pleased with Dr. Hall's work generally; we think that it is calculated to do much good in placing the subject of the due institution of blood-letting on a practical basis. Its principal fault is constant and unnecessary repetitions.

R. E. G.

ART. XIII. *Mémoire sur l'Angine Epidémique, ou Diphthérite.* Par F. P. EMANGARD, Docteur en Médecine de la Faculté de Paris. à Paris, 1829, 8vo. pp. 90.

Memoir on the Epidemic Angina, or Diphtheritis. By F. P. EMANGARD, M. D. Paris, 1829. 8vo. pp. 90.

The author of this production is a zealous disciple of Professor Broussais, and of course his reasonings and mode of practice have a direct reference to the doctrines of the physiological school of medicine. Though we are not ourselves a complete convert to these doctrines, yet we have always endeavoured to be open to conviction, and we must confess that the present memoir has gone far to confirm our favourable opinion of them.

The writer has endeavoured, and we think with some success, to prove that the epidemic angina or diphtheritis of M. Brétonneau is not, as supposed by that gentleman, identical with croup, but has its origin in the stomach, the anginose affection being preceded or accompanied by gastro-enteritis; and he maintains, contrary to the opinion of Mons. B. that diphtheritis does not essentially differ from scarlatina anginosa.

The result of the observations of Dr. Bianquin of the Arrondissement de Mortagne, where this epidemic prevailed in 1827, on more than three hundred patients treated by him, was that all those who were bled from the arm at the commencement, and the venesection repeated from the first to the second day, recovered.

M. Martin, a physician of Moulins-la-Marche also stated to the author, that he had occasion to treat seventy patients affected with this disorder, (during its epidemic prevalence in the cantons of Moulins, Bazoches, and Courtomer,) in all of whom the invasion of the disease was marked by symptoms of gastro-enteritis.

It may not be improper to state the topography of the district in which these cases occurred as related by M. Martin; it is situated not far from the shores of the Sarthe, which takes its rise in the commune, and near the church of Saint Aquilain, and is subject to frequent inundations of its banks. It is bordered by low and humid meadows, which are inclosed by very high hedges. There are frequently disengaged from these meadows, whose level is about fifty metres below that of the surrounding country, thick mists charged with gas of a very penetrating and disagreeable odour. In this section of country the habitations are low, moist, and both badly ventilated and paved. The yards of the cultivators among whom this malady most frequently manifests itself, are occupied by pools and dunghills, which exhale an animal gas of a very disagreeable smell.

The inhabitants are engaged in agricultural pursuits, living on bread more or less badly prepared, into which barley and rye largely enter as constituents, together with milk, cheese, fruits, &c. drinking cider when the seasons are abundant, and rarely eating meat.

Several interesting cases are detailed by M. Martin, which we are constrained to pass over, noticing however, as we proceed, the remarks of Dr. E. respecting them. "In all the patients treated by Mons. M." says he, "the signs of gastro-enteritis have always been the first observed. General bleedings were employed with constant success, but did not always prevent the development of serious occurrences, although repeated from the commencement of the disease, which the application of leeches to the epigastrium would, I believe, have prevented." Our author had an opportunity in the year 1828,* to apply his principles to practice. That year was characterized by frequent and abundant rains; the portion of country where this epidemic presented itself is cut up by dales, at the bottom of which there flow small streams subject to inundations; and it is well covered with underwood, fir trees, and forests, combining all the causes of a permanent humidity, and a temperature nearly always cold. The inhabitants are located in these dales, on the borders of the woods, or in the midst of orchards, so as to be nearly deprived of the beneficent influence of the sun, and at the same time exposed to the action of marshy exhalations. Here an epidemic scarlatina made its appearance towards the end of February, 1828, and continued until autumn. Symptoms of gastro-enteritis either preceded or accompanied its development in every patient; leeches to the epigastrium at the commencement always disposed to a favourable termination, and frequently averted the angina and cutaneous eruption.

When this remedy was neglected, serious and often fatal occurrences resulted; the angina extended sometimes to the larynx, and produced the diphtheritic croup of M. Brétonneau. The scarlatina had disappeared or become very rare, when, in last October, he was called by M. Dubois, who stated that a girl aged 19, had fallen a victim to a gangrenous sore throat, and another aged 10, who was labouring under croupal dyspnœa, accompanied with delirium, perished in the night. A third, aged 15, had nausea, vomited and complained of constriction in the throat; the tonsils were red, swelled, and covered, especially the left, with a thin whitish pellicle; the pulse was hard and contracted; the abdomen excessively hot; the pulsations of the descending aorta and of the cœliac trunk, produced a true percussion strong and unusual, but distinctly perceivable, attesting that the abdominal arteries were in a high state of irritation; these pulsations had also been remarked in the other two girls, who had before sunk under the disease.

Under the conviction that the abdomen was the primitive seat of the disease which it was important to arrest, in order to prevent its extension to the brain, producing delirium, and the angina pharyngo-tonsillaris from becoming consecutively the croup of M. Brétonneau, our author applied thirty leeches to the epigastrium, and prescribed diluent drinks, emollient clysters, gargles, &c.

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* Dans les Environs de l'Aigle.

The angina was arrested; the symptoms of gastro-enteritis ceased, and very soon the inflammatory redness of the tonsils disappeared. Six other patients in the same house were attacked with the like formidable symptoms, to which the beforementioned means were applied, except that to two of them the leeches were repeated to the second or third time: delirium did not occur to any of these patients.

It would be tedious to detail all the cases mentioned by Dr. E.; suffice it to say, they were all treated on the same principles, and with marked success. He observes, "I have seen a great number of individuals perish, who were attacked with this disease, because they had neglected the sanguineous evacuations from the epigastrium, or very abundant general bleedings."

The epidemics described by Huxham, Planchon, Tissot, and Rosen, had for pathognomonic signs more or less aggravated symptoms of gastro-enteritis; but the most interesting evidence adduced by our author in support of his principles, is from the work of Vincent Ketelaer, a physician of Zealand, published in 1669, entitled "*Commentarius de aphthis nostratibus seu Belgarum Sprouw,*" "a disease," says Dr. E. "which is nothing more than a phlegmasia of the mucous membrane of the digestive passages extending from the posterior part of the mouth to the tonsils and pharynx, producing pellicular concretions, which the authors calls pustules to distinguish them from aphthæ, properly so called, but which uniting and increasing in thickness, cover uniformly all these parts, and detaching themselves by fragments, (*frustulatim,*) do not leave any trace after them of their existence; an affection in one word, offering in its attack, its progress and its terminations, the same phenomena as the *diphtheritis* or epidemic sore throat of authors." Bleeding or repeated purgatives succeeded well before the aphthæ had attained their entire development, but ceased to be applicable when this had occurred. When venesection had not been practiced at the commencement the affection became more malignant and dangerons, and in the advanced stages it would have been the height of temerity to have recourse to blood-letting.

> "Who does not see," says our author, "in this succinct extract from the work of Ketelaer, the answer to all that has been said by M. Brétonneau, and repeated by his echos on the nature of diphtheritis, and on the danger of bleeding in its treatment?
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> "If like the Zealand physician, these gentlemen had appreciated the epoch of the disease, which no longer allows the employment of blood-letting, they would not have drawn this evidently false conclusion from their observations, that diphtheritis is a specific phlegmasia."

Dr. E. now proceeds to point out the analogy between angina maligna and typhus fever; and in support of his principles he adduces the testimony of Ramazzini, and also of Aretæus of Cappadocia, who, in describing a disease, which he terms ulcers of Egypt or Syria, details symptoms which are in effect the same as those which manifest themselves in epidemic angina or *diphtheritis.*

He locates the cause of the development of the malignant angina in the stomach;

here the first impression of the disease is made, and is thence transmitted to the organs of respiration and deglutition.

It is worthy of remark, that Aretæus recommends during the inflammatory state of this malignant disease, venesection, cataplasms, clysters, cupping, &c. and that it is only in the second stage, when the first indication is fulfilled, that he advises the use of astringents, such as alum and honey, gall-nut, oxyde of zinc, and wild pomegranate, to the posterior parts of the mouth.

The cause of the malignant, gangrenous, or diphtheritic angina, is to be traced to the presence of cold humidity, or putrid marshy exhalations, which, like the contagious emanations of typhus, or the miasm of variola are absorbed by the skin and mucous surfaces, and being transmitted to the visceral centre, exert their action primarily on the lining membrane of the stomach and small intestines, to which succeeds the diphtheritic phlegmasia.

Now, if we recall the characters of croup, properly so termed, and compare the manner of attack in his disease with that of diphtheritic angina, we shall be naturally led to the conclusion that these two affections ought not to be confounded. In fact, the angina maligna always succeeds to a gastro-enteritis, but croup has its origin in the larynx. In the first instance, the local bleeding ought to be from the epigastrium, in the second from the larynx. The epidemic angina, when it has not been properly combated by leeches to the epigastrium, or abundant and repeated venesection, will not be arrested by leeches to the throat, and some practitioners think it accelerates the fatal termination, which cannot be the case with croup; thus our author proceeds to draw a marked line of distinction between the two diseases.

A general description of the disease principally occupies the section to which we shall now proceed.

The pellicular or diphtheritic angina is always consecutive to a gastro-enteritis; it constantly appears as an epidemic, and consequently results from a general cause acting upon a greater or less considerable number of individuals subjected to its influence. We have seen, says our author, that a humid atmosphere charged with gas or marshy and fetid emanations, has been considered both by ancient and modern writers, as the cause of angina maligna; and we have also seen that these putrid emanations absorbed and carried into the digestive passages, occasion there a true miasmatic poisoning, as in typhus: hence the primary symptoms are those of a gastro-enteritis more or less intense. The patient has rigors, and an indefinable uneasiness, nausea, and vomiting, with or without pain of the epigastrium; the tongue is red at its borders and apex, and it is more or less coated at the base. This state continues sometimes two or three days before the signs of an invasion of the other mucous membranes are observed; but sometimes also the transmission is more prompt. The dysuria and the soreness of the throat take place in a short time; the tonsils, the pharynx, the palate, and the nasal fossæ become red; a whitish coating begins to appear, takes a colour varying from gray to brown, acquires consistence, and may extend itself to the larynx and bronchia, producing suffocation. This disease more particularly attacks children, young girls, and women, but may also assail even robust men.

It is remarkable that at the same time this affection occurs, we see epidemic fevers arising from the same general causes, prevail, and establish by their presence and the uniformity of the symptoms at the commencement, the identity of these diseases.

The treatment is begun by an abundant capillary bleeding from the epigastrium by means of leeches, to be repeated if deemed necessary. When leeches cannot be procured, venesection should be practiced, and repeated from the first to the second day after the attack; later than this, they will be inefficient, and even dangerous, accelerating the fatal catastrophe, as in the application of leeches to the throat at a late period of the disease. This may explain the failures experienced by Marteau d'Aumale, Brétonneau, and all who have had recourse to this remedy too late. To this cause we may also impute the want of success, complained of by Ramazzini, in the epidemic of 1690, a fever, in which from the fourth to the seventh day, a petechial eruption developed itself, at which epoch, venesection was always fatal, whilst a popular remedy, the scarificator and cups, applied when the lassitude, pain in the limbs, and vomiting, announced the invasion of the disease, without consulting the physicians, contributed to effect a cure, and indeed their application was followed by extraordinary success.

At the same time we fulfil this primary indication, (leeching or venesection,) diluent drinks, emollient clysters, and the pyrothonid gargles are to be employed. When the disease has progressed, whether it has been combated by opportune, general, or local bleeding or not, the nitrat of silver in solution, and even in the second or third stage, stimulating the fauces with alum or diluted hydrochloric acid may be resorted to. "But," says our author, "I repeat, they will always be superfluous, if at the beginning the gastro-enteritis be combated by leeches to the epigastrium, or repeated general bleedings."

From what has been stated by Dr. E. of which the foregoing is but a brief outline, he comes to the following *conclusions*:—

1st. That the malignant, gangrenous, or *diphtheritic* angina, is always epidemic.

2d. That it is caused by the absorption of putrid miasmatic emanations, and their action on the mucous membrane of the digestive passages.

3d. That this lesion is indicated by all the signs of acute gastro-enteritis; that this phlegmasia is susceptible of a more or less rapid extension towards the throat, and it is only in this case that the angina exists.

4th. That when properly treated, it never extends to the larynx, so as to produce suffocation; so that the croup of M. Brétonneau is always the effect of negligence. It has no other resemblance to croup, properly so called, than the development of a membraniform concretion in the air passages; the etiology, mode of invasion, progress, and the different treatment required by the two diseases, repels all the idea of identity.

5th. That if there be any class of affections to which we can refer this disease, it is the typhus and epidemic gastro-enteritis. Since these, (as he has witnessed,) can terminate by a pellicular angina; they also have the same etiology, mode of invasion, and development, requiring also the same treatment. The same may be said of the epidemic cutaneous phlegmasias.

6th. That it would be more correct to apply to this disease the name of *gastro-entérite angineuse.*

The remainder of the volume is occupied with a critical analysis of an essay, by M. Suchet, in which acute or convulsive asthma is stated to have affected a number of adult females, though our author considers them as cases of hysteria; they are not of sufficient interest to require a further notice.

C. B. M.

XIV. *Tabulæ Anatomico-Pathologicæ modos omnes quibus partium Corporis Humani Omnium Forma Externa Atquæ interna à normâ recedit, exhibeatis.* Auctore J. F. MECKEL. Fasc. primus cum Tab. Œn. viii. Lipsiæ, 1817. Fasc. secund. Tab. viii. 1820. Fasc. tertius, Tab. ix. 1822. Fasc. quart. Tab. viii. 1826.

The author of the work before us has long been known as one of the most distinguished anatomists of the age, and has, by the great ability of his numerous works, amply established his claim to this exalted station in the scale of public opinion. Descended from ancestors famous for their great proficiency in anatomy, he has by his diligence, and a mind truly philosophical, contributed more, perhaps, to the elevation of that department of science, than most of his predecessors or cotemporaries. The *Archives der Physiologie*, edited at first by the celebrated Reil, and over which the author himself has now the controul, constituted the principal vehicle of his numerous early contributions to anatomical science; and in these, as well as in his *Beytrage der Menschlichen und Vergleichenden Anatomie*, we find developed the elements of those truly philosophical principles which his subsequent labours have so successfully applied and unfolded. But the works that have contributed most to establish his reputation, are his *Handbuch der Pathologischen Anatomie*, 3 vol. Leipsic, 1812–1818, his work *De Duplicitate Monstrosa commentarius*, 1815, *Descriptio Monstrorum Nonnullorum cum Corollariis Anatomico-Phys.* 1826, *Handbuch der Menschlichen Anat.* 4 vol. 1815–1820, *Systeme der Vergleichenden Anatomie*, now in the course of publication, of which five volumes have appeared, and the *Tabulæ Anatomico-Pathologicæ*, before us. Of the several works enumerated, it is not for us to speak at present; the public voice has already proclaimed their merit, and we can only say, that we think the work last mentioned is well calculated to sustain the high reputation the author has already acquired.

It will be seen by a reference to the heading of these remarks, that the first fasciculus, containing eight copperplates, was published as early as 1817. The work was indeed announced as early as 1815, in the preface to the Dissertation on monstrosities, and from the date of the appearance of the first fasciculus, one has been published at intervals of from two to three years, up to 1826, at which time the fourth and last fasciculus made its appearance. Some time, we fear, must yet elapse before it can be completed. We sincerely trust, however, that the design expressed by the author, of representing by engravings, the principal anormal departures of the organization in its external and internal form, may not be relinquished, since such a work, when completed, will not only afford an invaluable treasure to the profession, but will constitute an almost indispensable appendage to the author's *Handbuch der Pathologischen Anatomie*, which it will be well calculated to illustrate. The value of the delineations of Sandifort, Baillie, Farre, and others have long been highly appreciated, and those of Professor Meckel, we feel assured, cannot fail to secure a still higher mark of public approbation, since, instead of being representations of only a part of the abnormal conditions of the organs, they are intended to afford an exposition of almost every known departure of the organization from its natural condition; therefore supplying an important desideratum in pathological anatomy.

The first fasciculus is devoted to the delineation of the various important morbid conditions of the heart. The greater part of the figures present a high degree of interest, inasmuch as they are not drawn alone from cases which have fallen under the author's own observation, but from the most interesting examples of the disease in question, which exist on record. In representing the different anormal conditions of the external configuration and internal arrangement of the heart and great vessels, Professor Meckel has not only furnished us with some very important examples of a departure from nature in these particulars, but has fully confirmed the truth of a proposition long since laid down by him: that such deviations approximate to the natural type of the same organs in some of the lower orders of animals. This is particularly exemplified in those figures which represent a free communication between both auricles and ventricles through their septum, thus representing the general type of the single heart of some animals.

The second fasciculus embraces the consideration of some of the alterations of form and texture to which the arteries are liable. Several figures are devoted to the anomalous distribution of some of the principal arteries, and furnish some very unusual and interesting deviations of that class. The most valuable plates, however, contained in the fasciculus, are those devoted to the subjects of aneurism, dilatation of the aorta, and the various alterations of texture which implicate the tunics of the vessels. All these subjects are delineated with much ability, and some very important examples of the several conditions enumerated are exhibited.

The succeeding fasciculus, with the exception of the first plate, which represents some morbid conditions of the jaws and teeth, is devoted, for the most part, to some of the primitive vices of conformation which are met with in the digestive organs. Some very curious anomalies of the pharynx, œsophagus, and stomach are represented. Amongst numerous other anomalies contained in this fasciculus, we observe several examples of diverticuli of the intestines, some of these very curious.

The fourth and last fasciculus that we have received, presents much more of practical interest than either of the preceding, since it embraces the consideration of intussusception and hernia. The most important pathological conditions that fall under these heads are admirably delineated, furnishing excellent exemplifications of the character and consequence of intussusception, as well as of the principal varieties of hernia, as inguinal, crural, umbilical, diaphragmatic, &c.

The tables of Professor Meckel are executed with great neatness and care, and are well calculated to preserve the several morbid appearances, the recollection of which they are designed to perpetuate. At the present period, especially, when pathological anatomy is made to constitute the very groundwork of the science of medicine, coming, as they do, from a source so respectable, and abounding with the most interesting materials, we think these tables must be hailed by every one, as an invaluable acquisition to the science, and that all must cordially respond the wish expressed by ourselves, that the distinguished author will continue his labours in a cause fraught with so much usefulness, and complete his design so laudably undertaken. E. G.

XV. *De la Destruction Mécanique de la Pierre dans la Vessie; ou Considérations Nouvelles sur la Lithotritie. Memoire lu à l'Institut, &c.* Par J. J. A. Rigal, Paris, 1829, 8vo. pp. 97, plates III.

Improvements in the surgical art, particularly those of a mechanical nature, would, we might suppose, very soon assume their proper position in public opinion; since the evidence which in such cases is derived from our senses, must generally prove decisive. But, if a new operation of such tangible qualities, that its feasibility or impossibility—its value or inutility, ought readily to be ascertained, did nevertheless continue to divide medical opinion, even granting that facts were advanced on both sides, should we not rather incline to coincide with those, who prove the thing actually to have been accomplished, than with others, who having failed in their attempts, resort to reasoning to prove it impracticable?

Such appears to be the case with the operation of lithotrity, nor as yet, do the parties of either side seem disposed to yield the point to the other. There being but one *right side* to a question, and only one true inference to be drawn from a simple fact, it is natural to suppose that circumstances entirely foreign to the subject, must occasionally exert an influence in producing a diversity of sentiment. It is not necessary, however, here to enumerate the circumstances, that, with different individuals, and for various reasons, might occasionally have brought forward arguments against the operation, now so successfully practised by Messrs. Civiale, Heurteloup, and others. Our present object is of a very different nature, being, as we hope, an unbiassed review of the labours of one who merits all he asks—impartiality.

The zeal so peculiar to the French nation, seems to have been aroused to an unusual degree, on the subject of lithotrity, and for some years past, astonishing improvements in the instruments employed, have resulted from the ingenuity of those, who have engaged in the undertaking.

The favourable report made to the Academy of Sciences, by Messrs. Boyer, Serres, Flourens, Magendie, and Dumeril, appointed to examine the memoir and instruments of Mr. Rigal, has placed him high among the aspirants to fame, and induced us to present to the medical public an analysis of his views, with some account of the instruments he has described.

Mr. Rigal divides his memoir into three parts. In the first he considers catheterism by straight instruments, and the means by which to overcome the obstacles that sometimes prevent their employment.

The difficulties opposed to a general adoption of lithotrity for the destruction of urinary calculi, are still numerous, notwithstanding all that has been done to obviate them; one, and not the least important of these, has particularly excited the attention of Mr. Rigal, and indeed first induced him to enter into the investigation of this subject. We refer to circumstances connected with the urethra alone, preventing the success of the operation. "This inconvenience may arise from various causes: either the extreme sensibility of the urethra with some subjects—or the too great curvature of this canal, with others, or from an enlargement of the prostate gland, and especially of its third lobe. A considerable number of patients being placed in some one of these conditions, would be obliged to forego the advantages of lithotrity, effected by the employment of straight instruments, if, by some means, a sound of this form were not made to penetrate into the bladder." Such means, Mr. R. has discovered, and put in execution. A case occurred to Mr. Leroy, in which a curved sound entered the bladder with the greatest facility and detected the presence of a calculus of moderate size; "but," (we quote his own words,) "when I wished to introduce the straight sound, it was impossible to succeed—&c. I procured a large gum elastic catheter in which the straight sound entered with facility; I next had made a curved iron staff, which exactly filled the catheter, and whose rounded extremity formed a beak. I proposed first to introduce the large catheter, to withdraw the curved staff, and then to pass the straight sound in its place. The large catheter and its curved staff entered with facility, but when, upon having withdrawn the staff, I attempted to introduce the straight sound, I experienced an insurmountable resistance."

Upon examination per rectum, he discovered an enlargement of the prostate gland, which had been the cause of a retention of urine, and produced the failure in his attempts to introduce a straight instrument.

Mr. Rigal accounts for the want of success in this case, by supposing that "the gum elastic catheter had impressed a greater permanency, (une fixité plus considérable,) to the curvature of the urethra, and then the vesical extremity of the straight sound, striking against the inferior curve of the factitious canal, became there arrested by an insurmountable obstacle. I was certain of having discovered the means of overcoming this, in employing the sound I am about to describe."

Instead of moulding his gum elastic catheters, or bougies, upon a straight polished rod, as generally practised, he caused that extremity of the rod or sound which was to correspond with the vesical end of his bougie, to be cut in the manner of a male screw, for the space of about three inches and a half, the average length of the curvature of the urethra. Upon this screw was wound a piece of thin, softened iron wire, in such manner as to fill up the grooves of the screw to the level of the shaft of the sound. Thus prepared, this sound became the model upon which was wrought the silk net-work, &c. required to form a flexible catheter—the straight staff to the catheter being the rod, on which it has been formed. This being withdrawn, a curved sound was introduced in its place, and the instrument thus prepared, passed readily along the curve of the urethra into the bladder. The curved sound is then taken out, leaving the gum elastic catheter in the urethra. The next object is to reduce the curvature or obstruction in that canal, in order to facilitate the employment of straight instruments; to effect this, the straight staff is now introduced through the catheter, and by turning it as it advances through the screw, the curvature of the urethra is gradually overcome, until at length reaching the bladder, the whole instrument becomes perfectly straight, consequently the urethra also. By this means, Mr. R. hopes in time, so to overcome the obstacle, as to permit the employment of straight instruments, and even suggests, that a catheter of this construction, might be made large enough to admit instruments for the destruction of a calculus at once.

It will probably be suggested, that the utility of this instrument, ingenious as it is, must depend, in a great measure, upon the benefit to be derived from lithotrity itself, to which it is only intended to be preparatory. Possibly, however, in cases where retention of urine arises from an enlargement of the third lobe of the prostate gland, a degree of pressure might be exercised, by converting a curved catheter into a straight one, sufficient to remove the obstruction, and also, in some cases of stricture, it may prove beneficial; as, for example, where the urethra is thickened for some space, when a straight instrument would exercise more pressure than a curved one.

In the second division of his memoir, Mr. R. presents us with an analysis of the various instruments recommended for the destruction of urinary calculi. He compares the practice of Mr. Civiale, (which consists in boring a hole, then loosening the hold of the calculus, to catch it again in a different position, and thus finally break it up,) with that of Mr. Heurteloup, who having once caught the calculus, does not leave it until it is excavated so as to form a hollow shell, easily broken up.

The objections which Mr. R. rather unnecessarily advances to these operations in succession, seem to have no other object than to prepare the reader for his own, a detailed account of which follows, and forms the subject of the third and last section. Having thus completely cleared the ground for the erection of his own pretensions, he starts with the principle, to use the words of Meyrieu, his cotemporary and coadjutor, "that nothing beneficial will be effected in lithotrity, so long as we attack the calculus from the circumference to the centre, as generally done, instead of destroying it from within outwards." Objections, however, are suggested as applicable to the instruments of Mr. Meyrieu, not necessary to detail here, to obviate which becomes his next object. On this point, after much labour, and successive improvements in the instruments, he offers the following reflections as the result.

"Is it not true, that if we could succeed in fixing a calculus firmly upon the drill, which had penetrated it, we might continue to set the calculus in motion, and destroy it by friction against the branches of the forceps, to which the operator would allow sufficient expansion, to favour the rotation of the body he wished to destroy? The forceps would first furnish the means of seizing the stone, and then become a kind of file, in the second stage of the operation. I did not fail to remark that these forceps being formed by a cylindrical tube, divided into three branches, each one of them ought to have on its internal face, and near the sides, two projecting edges. I had nothing therefore to change in this particular, and I observed six sharp angles, running the whole length of the blades, as inoffensive to the bladder, as well calculated to grind off the stone when applied to them."

It was necessary in the first place, to endeavour to enlarge the head of the drill, after it had effected an opening into the calculus, and to cause it to remain firmly fixed within the interior. To accomplish this, was contrived the instrument next to be described.

A steel drill, terminating in a spear-pointed head, is enclosed in a tube of the same metal, whose vesical extremity is divided into two or three blades or prongs, which by their elasticity closely embrace the shaft of the drill. The head of the drill projects beyond these blades, thus forming an instrument, by which the stone may be perforated, the blades entering the perforation, at the same time, as if they formed a constituent part of the drill; this accomplished, the projecting head of the drill is to be drawn within the blades, by which they are expanded, and the stone firmly held; an idea of this instrument may be obtained by comparing it to a common round trocar. The blades being sharp and angular, on their outer faces, it is proposed, by working them forwards and backwards, in the perforation, to form small grooves in the calculus, accommodating them, thus making their hold upon it more firm and secure. The instruments just described are enclosed within a tube, whose vesical extremity constitutes the three-bladed forceps, calculated for seizing the stone, and are similar to those of Messrs. Civiale, Leroy, &c. with this addition only, that they present sharp ridges along their inner edges. The whole is embraced by the outer tube, as in the other instruments now in use.

The most essential difference, therefore, which is to be noticed between this instrument of Mr. Rigal, and those heretofore employed, consists, first, in his having one extra tube, which closely embraces the drill, and is expanded when the head of the drill is drawn within it; and secondly, in the forceps being competent to grind a stone, as well as to seize it. The operation then would consist, first, in catching the stone, and penetrating it with the drill in the usual manner; secondly, in securing it in such a way upon the drill, that, as our author remarks, they may form but one body; thirdly, in relaxing the blades of the forceps, so as to allow unimpeded motion to all within them; and lastly, by rotating the drill, and consequently the calculus attached to it, to grind off, or wear away the stone, against the sharp edges of the forceps. This part of the operation, he prefers accomplishing, by an arrangement different from the bow and pulley usually employed. The drill is fixed into a small wheel with oblique cogs, acted upon by a horizontal wheel, six times its diameter, thus making one revolution of the latter equal to six of the former. The larger wheel is turned by a handle. The advantages proposed to be gained by this suggestion, are, that the rotation is more rapid and more equable; the irregularities of the calculus, if there be any, are, as in the turning lathe, more easily ground off; and the operator can, with more precision, ascertain the degree of resistance offered to the process, so as to graduate the force by which to apply the blades of the forceps against the stone.

This, which may be considered as the first principle of the operation, would, we are ready to allow, be competent to the destruction of the greater part, or nearly the whole of a calculus—provided it be not beyond a *certain size*, and be not *flat* in shape. That portion which remains on the drill, is to be broken into fragments, by the forcible expansion of the instrument holding it, and this constitutes the second principle of Mr. R.'s invention, He asserts that calculi, even of considerable size and solidity, are broken with astonishing facility, by this application of an expanding power, acting from the centre to the circumference; and to the discovery and application of this fact, he attaches most importance, in which however we are not disposed fully to coincide with him. Mr. R. has subjoined also, the description of what he terms "a desk bed." This consists of a portable box, which upon being opened and unfolded, furnishes inclined planes, attached by joints, calculated to accommodate the patient, and to place him properly for the operator, and which may be arranged upon any common table.

Mr. Rigal's suggestions, which seem to have been progressive, have in our opinion, led him a step too far; he is disposed to neglect the first principle of his operation entirely, and proposes hereafter, to break up a calculus, by the expanding power only, catching the larger fragments, and treating them in the same way as he had the original stone. This is all very well in theory, and equally easy to accomplish upon the dead subject; but he forgets that the *catching* a foreign body in the bladder, is decidedly the most difficult, most painful, and most hazardous part of the operation, and therefore he talks of "seizing fragments," as if it were always an easy task, and quite an indifferent matter to the patient. Decidedly the most important and effectual plan of effecting lithotrity, will ultimately consist, in catching a calculus but once, and then to complete its destruction.

The more minute mechanism of these instruments is much too complicated, for us to attempt any explanation, unaccompanied by plates to illustrate them. The principal features, we trust, are sufficiently delineated, to render that justice to Mr. R.'s pretensions, his ingenuity and perseverance so well merit.

J. P. H.

Art. XVI. *Ueber die Verletzungen des Rueckenmarkes, in Hinsicht auf ihr Lethalitaets-Verhältniss.* Von Dr. John Ludwig Casper, Practischem Arzte in Berlin, Mehrer gelehrten gesellschaften Mitgliede. Berlin, 1823.

This is a highly interesting memoir upon the subject of which it treats—injuries of the spinal marrow considered in reference to their comparative fatality. Upon the questions involved in the discussion, there has always existed considerable diversity of opinion; some affirming that all wounds of the spinal marrow are necessarily fatal, while others have brought forward examples of such injuries in which recovery has taken place even under the most unpromising circumstances. It is certainly a subject of great interest, whether considered in a pathological or medico-legal point of view, and we are much indebted to the author for the talent and diligence he has evinced in travelling over the whole grounds, and drawing such conclusions as seem to be warranted by a mature and dispassionate examination of the subject in all its bearings.

Injuries of the spinal marrow are divided by Dr. Casper into three orders:—*Wounds, Compression* and *Concussion.* These are subdivided as follows:—

> "A. *Wounds.* 1, Punctured; 2, Incised; 3, Contused; and 4, Poisoned wounds.—B. *Compression.* 1, From luxation of the vertebra; 2, Fracture of the vertebra; 3, Foreign bodies introduced by wounds of the vertebra so as to compress the spinal marrow; 4, From fluids thrown out, either by a preternatural exhalation or secretion, or extravasation occasioned by wounds.—C. *Concussion.*

The author, after considering the various modifications of these several species of injury, arrives at the following conclusions, which, as general rules, are, we think, sufficiently correct.

Injuries Absolutely Fatal.	**Injuries not Absolutely Fatal.**
1. "Punctured wounds implicating the upper portion of the spinal marrow.	1. "Punctured wounds of the lower portion of the spinal marrow.
2. "Incised wounds of the same part.	2. "Incised wounds of the same.
3. "Laceration of the entire thickness of the upper portion of the spinal marrow.	3. "True dislocation of the dorsal and lumbar vertebra.
4. "True dislocation of the cervical vertebræ.	4. "Fracture of the spinous processes of the vertebra.
5. "A preternatural collection of fluid within the spinal canal."	5. "Concussion of the spinal marrow."

Exceptions to these conclusions will, doubtless, occur in some cases, yet we consider them sufficiently accurate as general rules, and as such we think they possess considerable value. E. G.

XVII. *Précis Analytique et Raisonné du Systeme du Docteur Gall.* Avec figures, 4e Edition. Paris, 1829, 12mo. pp. 248, pl. XVII.

In the French capital, the present head quarters of medicine, every subject embraced by that science is now presented in the form of summary or manual. Indeed some such labour-saving contrivance seems absolutely necessary, since from the zeal and assiduity with which investigations are prosecuted, the increased number of authors and consequent multiplication of writings, we do not well see how one could otherwise keep pace with the periodical and other literature of the day, even should he have no other occupation than reading. In the small treatise before us, the plan has been applied to phrenology, and as it may gratify some of our readers to know what are the doctrines now promulgated abroad, we shall take advantage of the recent publication before us, to present a concise view of them.

The anonymous author represents himself as a pupil of the late Dr. Gall, whom he pronounces the most remarkable *savant* of the present epoch, invoking his manes to smile upon his efforts, and receive them as the expressions of his highest admiration and sincere gratitude. By the by, such indications of enthusiasm should put us on our guard, since we hold that the representations of no one under the influence of a high degree of this feeling, are to be entirely trusted. Previous to it's first appearance, the summary was submitted by the pupil to his master, who not only approved of its doctrines, but recommended its publication as calculated to render these more popular, a result which seems to have been answered, inasmuch as in Paris it has already gone through four editions in the space of about two years. The objects contemplated by phrenology, are, in fact, above all others, calculated to excite popular curiosity.

Since the date when Gall and his coadjutor first promulgated their system, one might think sufficient time had elapsed to allow its truths to be clearly demonstrated or its fallacies fully exposed. As yet, however, it cannot be said that either decision has been positively established, and in this country at least, the number is not great of those who are prepared to express unqualified belief in the system. The author of the manual before us seems likewise under some restraint in the expression of his faith, and sends forth his book without his name. Is this condition of doubt and uncertainty owing to original error, to the resistance of prejudice, or the want of still further investigation? The perplexities involved in the systems of metaphysics, should certainly dispose us to give a patient consideration to any plan which might possibly tend to lessen them. Those, therefore, we think inexcusable, who from prejudice or any other motive, treat the system of Gall as altogether an idle vision, unworthy of serious consideration. That he has indulged in some extravagancies, his warmest advocates, must we think, admit; but this might naturally be expected from the enthusiasm with which he pursued the subject of his investigations. We would not, however, entirely reject them on this account, since, should it turn out that he has really done less for metaphysics than was anticipated, we must still acknowledge ourselves under considerable obligations for the light he has shed upon physiology and pathological anatomy.

The Précis commences with a preliminary discourse of considerable length, in which a glance is afforded of the several systems applied by the most celebrated philosophers, both ancient and modern, to explain the psychology of man. It is well known, that the ancients were in possession of comparatively few facts in relation to the laws of nature, the elements and properties of matter, and especially the more minute divisions of animal organization. Their small stock of positive knowledge was blended with innumerable errors, natural results when fertile imaginations are abandoned to conjecture, a course, which, in their search after the essence of the intellectual faculties, led them into abundant metaphysical difficulties. In regard to modern authorities of most weight, such as Locke, Descartes, Condillac, Kant, &c. he ingenuously acknowledges that they are not absolutely incapable of affording some useful instruction, but at the same time he aims at rendering them entirely nugatory, by advancing as an axiom, that it is impossible to comprehend or explain the moral and intellectual part of man, without having previously studied him physically. Casting aside therefore all abstract notions, he considers anatomy and physiology as alone capable of laying the true foundation of metaphysics, and looks upon it as the crowning merit of Gall, that he was the first who dared to bring the philosophy of man to these conditions.

In tracing out his system of the internal forces or powers which determine and regulate the actions of man, a system intended utterly to subvert all those by which it has been preceded, our author proceeds from the most simple to the most complex, noticing in the first place, those which result immediately from the mechanical or physical action of organs and the properties of the tissues composing them. These are out of the immediate influence of the will, and are called *automatic actions;* among which are, the motions of the heart, arteries, veins, ventricles of the brain, intestines, together with all the functions constituting what is called vegetative life, or life of nutrition.

Immediately above these actions, came that series of sentiments designated by the term necessities, seated principally in the organs of *automatic life.* Hunger, thirst, respiration, &c. belong to this second order. All internal forces of this kind, with which we are acquainted, imperiously oblige us to act upon the external world.

In the third order are the *instincts,* which may be defined, certain unreflected internal forces, impelling to the performance of particular acts necessary to our existence, which acts, though executed by voluntary motions, are more or less irresistible.

The *passive* functions of sense, should, our author thinks, form a fourth order, and their *active* functions a fifth. As examples of the first he mentions, the impressions of light upon the eyes, sound upon the ears, and cold upon the skin, over which he says we have no more controul than we have over the instincts. But it is different when these impressions induce attention and volition, and involve moral responsibility.

After the *active* functions of sense, may be placed the *voluntary movements*, such as those of the limbs, serving for locomotion and the exercise of other acts connecting us with the external world, through the agency of muscles immediately under cerebral influence.

In the seventh order come the *propensities*, which are internal forces impelling us more or less imperiously towards particular objects, and to view and receive things in a certain manner. These exert a powerful influence over the conduct of man and other animals, but are liable to be greatly modified by the combined agencies of superior faculties, by education, &c. Physical love, attachment, or friendship, the dispositions to quarrel, provide, &c. belong to this order.

In the eighth order, our author places those instincts to which Gall has applied the term *aptitudes industrielles*, exemplified in the skill displayed by the spider in forming its net, as well as that shown by the beaver and by birds in their respective buildings. Such aptitudes he regards as distinct from instincts, properly so called, since they indicate a degree of intelligence.

In the ninth order we have the *intellectual* dispositions or mental faculties, by the agency of which notions and ideas of things are acquired. The combination of these constitutes that particular faculty called *reason*.

Next come the *moral qualities*, which result from the application of the intellectual faculties superior to the direction of the propensities mentioned in the seventh order.

Finally, that no internal cause capable of influencing the determinations of man, may be omitted, two others must be noticed; namely, the preponderance of certain systems of organs over the others, giving rise to what are styled *temperaments;* and those derangements which may take place in the functions of *automatic life*, as well as those in the life of relations. These two new orders of causes are the more efficient, inasmuch as they exert a more immediate and universal influence over all the others. The propriety of constituting a new order out of the derangements of functions, may be fairly questioned.

These, then, our author tells us, are the principal internal causes, which, independent of any such abstractions as pure conceptions, ideas *a priori*, forms of sensibility, &c. concur in the production of our thoughts and actions, and to which may be referred all the differences of humour or character which we remark among men.

He proceeds next with some observations relative to the principal external causes, contributing to the development of man, by exercising over his interior forces a greater or less influence, which he divides into primitive or *natural*, and into secondary or *accidental* causes. Soil, climate, and the aliments constitute the first, government, religion, and philosophy the second.

After this view of the combined forces operating upon man, we shall present a coup d'œil of the laws of the cranium or cranioscopy, a term which our author prefers to either organology or craniology.

We are informed by Gall that he was gradually led by observation into the belief, that the dispositions and character of individuals were in conformity with certain external cerebral developments, and that he was thus induced to found a new physiology of the brain His new views were, he tells us, subsequently confirmed by the following pathological phenomenon. He had been taught to believe that in dropsy of the brain, a dissolution of its substance took place. This however he could not reconcile with the observation he had made, that the intellectual faculties were not always destroyed in this disease; and supposing, therefore, that there was some mistake in the pathology, he determined to ascertain if possible the truth of the matter.

A hydrocephalic woman, whom he had attended, and who had bequeathed to him her head, furnished an opportunity of satisfying his doubts, and at the same time of demonstrating that the brain is of a fibrous structure in its white part, and not merely a simple agglomeration of globules, as it was formerly considered. This woman, who had preserved the integrity of her intellectual functions till death, had nearly four pints of water in her cranium, and the species of maceration to which the brain had been subjected, allowed Gall to unfold, as it were, the circumvolutions of which it is composed, and at the same time to exhibit to the eyes of his pupils the fibrous texture of their parenchyma.

Pursuing his investigations, he showed subsequently that the gray substance of the brain is of a gelatinous nature, whilst the white consists of very delicate fibres, forming a sort of skin or membrane reflected upon itself, the folds constituting the circumvolutions which we observe upon the surface of the brain; that these circumvolutions are the seat of the superior faculties, by means of which man can compare, associate, and judge of the various impressions he receives, and deduce the consequences.

In establishing the four fundamental principles of his system, Gall laid it down as the first, that the propensities and faculties of man and other animals are innate.

Considering in the next place that the aptitudes, intellectual faculties, and moral qualities are varied by numerous material circumstances, he adopted as a second principle, that the exercise of our instincts, propensities, intellectual faculties, and moral qualities, are subservient to the influence of material and organic conditions.

Convinced by numerous facts furnished by human anatomy and physiology, as well as comparative anatomy, pathology, and natural history, that a greater development of the cerebral organs favours and increases the exercise of the intellectual and moral functions, he laid it down as a third rule, that the brain is the organ of all our instincts, propensities, sentiments, aptitudes, intellectual faculties, and all other moral qualities.

An extension of this last principle, led him to the adoption of a fourth rule, namely, that each of our instincts, propensities, sentiments, talents, and our intellectual and moral faculties, has in the brain a place specially appropriated to it, a determined seat; and that the development of each of these various parts, which form as it were so many little brains or individual organs, manifests itself upon the exterior surface of the head by signs or visible and palpable prominences, in such a manner, that from the examination of these protuberances by the sight or touch, the particular dispositions and intellectual and moral qualities of every individual may be ascertained. It is this fourth and last principle which has encountered the most incredulity and resistance.

In the exposition of his doctrine, Gall further sets forth, that the faculties increase or diminish, as the organs which are their supposed seats, develope themselves or become stronger or weaker; that they are active and efficient in proportion as the same organs possess more strength and perfection, and in a word, in all their manifestations, offer aberrations and derangements analogous to those we remark in their respective organs. The brain, which in the first period of existence appears almost without consistence throughout, is observed to increase little by little in solidity, acquire a fibrous structure, and enlarge gradually until about the age of forty or forty-five, when it appears to have acquired its full development. In this state of perfection, the organ rests some time, when its circumvolutions begin to sink, and it is observed to diminish insensibly in volume and elasticity, the faculties of which it is the seat losing at the same time their powers. Gall thought he had established as an incontestible fact, that all men who are distinguished for energetic faculties, or superior merit, have the front or some other portion of the head developed to an extraordinary degree, whilst on the contrary, those in whom the cranium offers but little capacity, or exhibits irregularities in the projections, manifest a deficiency in proportion to the degree of deformity. He cites the case of a young man whose forehead had scarcely an inch of elevation above the root of the nose, who manifested only those faculties situated near the eyes, being absolutely incapable of exercising any of those belonging to organs occupying the superior region of the forehead, that is to say, to compare, combine ideas, and form a judgment. In rickets, however, the common effect of which is to produce considerable development and irritation in the brain, the intellectual faculties of children are frequently more acute and active than comports with their age.

According to Gall, each inclination and propensity arises from the action of a single organ. The will, on the contrary, is a decision resulting from the examination and comparison of many motives, that is to say, the sum or result of many forces acting differently. The explanation he gives of the various degrees of extension acquired by the will in the different species of animals, in proportion as they are found endowed with organs of relation and more elevated faculties, is curious. He admits that the action of one organ cannot destroy the impression received through another, nor the action which is the necessary consequence, but pretends that, in proportion as the organs increase in number, the individual, rendered susceptible of a greater number of sensations and ideas, experiences more of those powers which enlighten, and of inducements not to pursue blindly the gratification of this or that desire, or the impulse of a certain propensity. A sort of combat ensues between his inferior and superior faculties, and in proportion as these last have acquired development and received cultivation, they almost always predominate over the brute propensities. With the inferior animals in which the number of organs is very limited, the will is but a simple volition influenced by the irritation of this or that organ. In man, on the contrary, where the plurality of organs reaches its maximum, the excitation falls at the same time upon several organs, when the counteracting forces immediately commence their play. If for example, the destructive instinct provokes to murder, benevolence or theosophy, equally excited, directs the attention of the soul upon other objects, and opposes the accomplishment of the action. Thus in man the superior faculties with which he is endowed, their culture joined with other motives, furnished by education, the laws, religion, &c. constitute a superior power, which examines, compares, and weighs the motives of his actions, and impresses on them a greater or less degree of *morality*.

So far as the osseous conformation of the head is concerned, there are but eight of the bones which particularly interest the student of craniology, namely, those entering directly into the construction of the walls of the cranium, and composing the bony box which contains the brain. These, although usually described by anatomists as of the same form and structure, differ considerably in the eyes of the phrenologist, who observes in the various configurations they present, and the capacity of the space they include, so many indexes of those intellectual differences which exist between individuals. Connected with these investigations, is the important question, whether the brain always fills the cavity of the cranium so exactly, that one may in all cases infer from the form of one, the configuration of the other, or the respective development of its parts. The verity of craniology, in fact, rests upon the condition, that the external surface of the cranium offers precisely the impression of the elevations and depressions which exist on the external surface of the brain. Convinced of the necessity of this exact coincidence, Gall engaged himself to prove, 1st, that the form of the cranium depends upon a centrifugal action exercised upon it by the brain. 2d, That under the ordinary circumstances of life, that is to say, in a healthy state of the brain and of the individual, this viscus fills the cavity of the cranium in such a manner, that the form of this last is always the precise figure of the other. 3d, That no external circumstance, such as the cross positions of the head of the infant during delivery, or subsequent compressions produced by the practice to which some are subjected of carrying burthens upon the head, &c. are capable of altering the form of the cranium, seeing that these accidental circumstances could not resist the permanent and centrifugal action of the brain. Nothing but constant pressure could produce an effect analogous to the deformity which we observe in the cranium of the Caribs and some other people. According to Gall, it is the same with the form of the cranium as with the resemblance traced in the features of the countenance and the forms of other parts of the body; it is determined at the moment of conception, and the child is born with a tendency more or less decided to assume little by little, the appearance of its parents. It is, moreover, difficult to determine the exact time when the definitive development of the brain takes place.

The sinking or contraction of the brain consequent to its period of decline, does not, as some suppose, leave a vacancy between it and the cranium, since the internal table of this sinks in the same gradual manner, and continues to mould itself exactly over the convolutions, excepting only, that as the external table does not change, a spongy substance is deposited in the spaces between the lamina. Thus the bones of the cranium become more thick and spongy than at other periods of life. Gall thought that he had likewise proved by observations made upon the human species, together with direct experiments upon animals, that misery, fasting, abstinence, bad treatment, and above all, food of a bad quality, or given in too small quantities, produce the same effects as old age, that is to say, a drying of the nervous system and subsidence of the brain, followed by a failure of the corporeal forces, as well as of the intellectual faculties and moral qualities, which may explain the degradation that marks the conditions of certain people.

It would be altogether a vain task to attempt to point out the locality of each particular organ without the assistance of plates. For this reason we shall pass over organology, properly so called, and conclude this notice with a short biographical and phrenological account of the founder of the science furnished by the treatise before us.

Jean-Joseph Gall was born in 1758, at Tiesenbrunn, in Wurtemburgh, and died at Mont-Rouge, near Paris, in the summer of 1829. His father, who was a merchant, sent him whilst yet very young, to one of his uncles in the duchy of Baden, to commence his education. From this place Gall went to Strasbourgh for the purpose of studying medicine, then to Vienna where he assumed the garb of the physician, which profession he practised up to 1805, when he left the last named city to return to his father, who had a desire to see him previous to his death, and also to make a tour in the north of Germany, where he commenced teaching his new doctrine. Finally he arrived at Paris in 1808, where he continued till his death to devote himself to the practice of medicine, and to promulgate the results of his laborious researches.

From an attentive examination of the head of this celebrated man, who for intellectual capacity may be ranked with the first of the age, the author of the treatise before us, drew the following indications, namely:—among the organs most developed may be enumerated all those situated on the anterior and superior parts of the forehead, such as the spirit of induction, that of wit, the faculty of abstracting and generalizing, but above all, benevolence. On the crown and sides of the head, there were also strong developments of firmness or perseverance, caution and cunning, or rather finesse and ingenuity. The accusation of duplicity with which he had been charged, our author regards as unfounded. The sexual appetite was strongly marked upon the occiput, whilst the anterior and inferior parts of the forehead exhibited small indications of the memory of facts and philology. Finally, colour, music, mathematics, mechanics, and especially poetry; were very faint, and this last sense to such a degree, that he actually had an antipathy for versification. All the other organs were in a state of ordinary development. That of locality, which had appeared very prominent, was only a contraction of the skin, produced by the habit of thinking.

To this cranioscopy must be added, a strong constitution, a degree of corpulence, and a stature considerably over the mean height. His movements displayed more gravity and energy than lightness and promptitude, his looks much fixedness and penetration. His countenance was sometimes marked with care, and had generally an expression rather of seriousness than gaiety. Calm and circumspect, he was always free from blustering and foolish mirth. A sarcastic smile mingled with an air of irony, sometimes sprung from his mouth and the alæ of the nose. He had a superb forehead, and a chin slightly prominent, full and firm, a clear skin and fresh complexion, thick lips, and passions more profound than violent. The expression of thought was always clear, precise, often picturesque, but sometimes scornful. His lectures ordinarily consisted of a simple exposition of facts, but in conversation and discussion, interrogation and irony were most conspicuous. The motions of his extremities and attitudes of his body were very negligent, but the tone of his voice, accent, movements of the head and physiognomy were very expressive. In fine, a certain fund of German good nature, redeemed some rather rude expressions of humour, which were neither sufficiently mild nor innocent not to produce a slight irritation.

The cranium after death having been carefully separated with a saw from above the eyelids, was found of great thickness, (about three lines,) as well as hardness. Between the dura mater and pia mater there were about two ounces of a bloody matter, with some exuberances, one of which was about the size of a pea. The cerebral substance was firm and nearly in a natural condition, although during his illness it had been suspected that the brain was the organ chiefly affected. The skull cap and brain having been removed, weighed together, four pounds, one drachm and a half; the skull cap itself weighed one pound, five ounces, one drachm. Thus the proper weight of the brain alone, when disengaged from its meninges, was two pounds, eleven ounces, and half a drachm, a weight indicating a brain, the dimensions of which are very near the maximum they ever attain.

From all this our author remarks, "it is evident, that in the sense which he attached to the word philosophy, Gall had a head eminently philosophic. He was in fact skilful in distinguishing prejudices from eternal truths. He possessed an astonishing perspicacity for penetrating into things, and exhibiting them in a point of view fruitful in useful resources. But in my opinion he wanted several faculties to constitute a mind of the order of Descartes, of Newton, of Leibnitz, of Wolf, &c. perhaps even of Bacon. With him, in fact, the faculties of causality and comparison were well developed, but this was not sufficient to enable him to arrive at a system of philosophy at once severe and positive, which embraced at the same time every thing relative to man, and the chain of admirable phenomena which constituted the moral and physical order of the universe. Many organs, especially those of the mathematics, arts, localities, &c. were too weak in him to admit of his elevation to such a height. But he had the organization which qualified him to lay close hold on human nature and lay the foundation of the true philosophy of man. Many others, with fewer titles to our gratitude, have covered themselves with immortal glory." G. E.

Art. XVIII. *System der Vergleichenden Anatomie.* Von J. F. Meckel, Professor der Medicine, Anatomie und Physiologie, zu Halle, &c. &c. Erster Band Allgemeine Anatomie, Halle, 1821. Zweiter, dritter, und vierter Band, Besondern Anatomie, enhaltend die Skeletlehre, die Muskellehre und die Verdauungslehre Halle, 1824-25-28 und 29.

A System of Comparative Anatomy. By J. F. Meckel, Professor of Anatomy, Medicine, and Physiology in the University of Halle, &c.

The French translation of the Comparative Anatomy of Professor Meckel, now in the course of publication at Paris, has been already announced to the

American public through the pages of this Journal: the first, second, and third volumes, including the whole of the translation yet published, having been already noticed in some of the preceding numbers. The German edition, it will be seen by a reference to the title affixed above, is considerably in advance of the French of MM. Reister and Sanson; the fifth volume having made its appearance at Halle in the course of the last year. In making this annunciation, it is not our intention to examine the first three volumes, the contents of which have been already announced to our readers, but to notice the materials contained in the fourth and fifth.

The fourth volume is taken up in the consideration of the muscular system, which is examined in the different classes of animals, commencing first with the echinoderma, and considering it successively in the annelides insects, arachnides, crustacea, moluscæ, cephalopodes, fish, amphibia, and mammalia.

We regret that we cannot follow the author through the interesting details contained in this volume, every part of which bears the impress of that truly philosophic spirit which pervades all the literary labours of Professor Meckel. It is impossible to read this exposition of the muscular system, in the different classes and orders of animals, without finding ourselves carried away, in a spirit of admiration, at the wonderful adaptation of its several parts, to the wants and conditions of the several beings, which it is destined to subserve.

In the fifth volume we have an elaborate examination of the digestive system extended through the several classes and orders of animals in nearly the order pointed out above. Here we have a most satisfactory exposition of the instruments of digestion in all their diversified forms and modifications, from their simple arrangement in the humblest zoophyte, to the complex disposition which they present in the higher orders of the mammalia. In all we find an arrangement of parts adapted as well to the characters of the food upon which the animal subsists, as the nature of its habitation, and external relations. In every part of this volume we find matter which, with the anatomist and physiologist, possesses the highest degree of interest, and is well calculated to establish the clearest conviction of the immense advantages to be derived from the study of comparative anatomy. We should be pleased to make copious extracts from the volume in question, convinced as we are of its great merit, but this pleasure we shall be obliged to forego, at least for the present, not without the hope, however, that it may yet be in our power, on some future occasion, to furnish our readers with a more satisfactory account of the comparative anatomy of Professor Meckel. Our commendations are, fortunately, not necessary to ensure a due appreciation of its merits.* If in France, where they have already the proud monuments, in comparative anatomy, built up by the geniuses of a Vicq d'Azyr, a Daubenton, a Cuvier, and a Blainville, this treatise should be considered worthy of a translation, may we not hope that the English language, in which we possess no good treatise on the subject, may become enriched by a transformation of the work in question into an English dress? Such an event is highly desirable, and we should be much pleased to see some competent individual occupied in so laudable an undertaking.

The remaining volumes are to be completed at as early a period as possible; and if we may judge from the character of those already published, we have no hesitation in affirming, that it will constitute, by far, the ablest treatise on comparative anatomy contained in any language. E. G.

XIX. *Encyclopädisches Wörterbuch der Medicinischen Wissenschaften.* Herausgegeben von den Professoren der Medicinischen Facultät zu Berlin: C. F. v. GRAEFE, C. W. HUFELAND, H. F. LINK, K. A. RUDOLPHI, E. v. SIEBOLD. Zweiter Band. (Ahnung——Antimonium.) Berlin, 1828.

The first volume of this medical Encyclopædia has been already noticed in a preceding number of this Journal, and as we propose to announce those which are to follow, to our readers, as soon as they are received, in accordance with this plan, we avail ourselves of the earliest opportunity of calling their attention to the second volume, which made its appearance at Berlin, in 1828. It extends from the word Ahnung, (prae sagium, divinatio,) to Antimonium, and consequently embraces a wide range of interesting topics, which are for the most part treated with great ability. It must be manifest, that to comprise the leading principles which appertain to the several departments of medical science, within the small compass of twenty-five volumes, most of the articles must be short, otherwise numerous topics, all possessing more or less interest, would be entirely excluded. We accordingly find, that with but few exceptions, the articles contained in this volume possess considerable brevity. This is, indeed, carried in some cases to such an extent, as to amount to a fault. Upon a hasty examination, the articles which strike us as most elaborate are, *Alter*, (Aetas,) by Professor Rudolphi; Amenorrhœa, by Professor Berndt; Amaurosis, Professor Benedict of Breslau; Amputatio, Dr. Grossheim of Berlin; Anastomosis and Anatomie, Professor Rudolphi; Aneurisma, Dr. Sommer of Frier; Angiectasie, Dr. Sommer, Angina, Dr. Sachse; and Anthropologie, Professor Rudolphi, &c. In designating these articles, it is far from our wish to detract from the others: we have selected them partly on account of their greater length, while we are conscious, that there are some of less extent, which possess even more merit, than some of those which have been designated. The article on angina is altogether too extensive, and has been made to encroach upon space which should have been allotted to more important matter: it occupies one hundred and thirty-five pages, almost one-fourth of the entire volume. We are disposed, however, to overlook these trifling faults, as the general literary execution of the volume is highly respectable. We hope, therefore, that the publication of the succeeding volumes may proceed without interruption; and we feel assured, that when completed, the whole work will constitute a highly respectable monument of German medical literature. In the arduous, but praiseworthy enterprize of editing and publishing medical encyclopædias, the French were the first to lead the way; and so fully have they felt the benefit of such works, that in the space of a few years, no less than three works of the kind have been completed at Paris, and a fourth is at present in progress. The Germans have, with a commendable spirit, followed the example; and may we not hope, that the English and Americans will next be stimulated to collect and digest their medical literature in a similar manner? E. G.

XX. *Elemente der Allgemeinen Anatomie in Verbindung mit der Allegemeinen Zergliederungskunst.* Von Dr. M. J. Weber, Professor und Prosector zu Bonn, Mehrerer Gelehrten Gesellschaften Mitgliede, &c. Mit Steintafeln, Bonn, 1826.

Elemente der Speciellen Anatomie in Verbindung mit der Speciellen Zergliederungskunst. Von Dr. M. J. Weber, &c. Zweiter theil Muskellehre, Bonn, 1828.

This is a treatise upon general and special anatomy, in connexion with a system of dissection, in which are contained rules for dissecting the different parts of the human body.

Professor Weber divides dissection into general and special, according as it has for its object the investigation of the characters of the several tissues of the body, (*Histography,*) or the structure, form, relations, &c. of the different organs, (Morphography, or Topography,) of the human body.

Some difference of opinion has existed relative to the time at which the anatomical student should commence his dissections, some advising that he should have previously attended one course of anatomical lectures, while others recommend that he should begin to dissect as early as possible. There can be no doubt that the student can profit more by dissection after he has heard a course of lectures, and has acquired, from the demonstrations of the professor, some knowledge of the parts which he has to expose, than if he were to commence without this preliminary information. Yet when we reflect upon the short space of time allotted to a course of medical studies, and that anatomical pursuits can only be attended to during the winter, we cannot help agreeing with the author, that dissections should be attended to from the commencement, and throughout the whole period of medical studies. We can speak upon the subject from considerable experience, and we are convinced, from the result of our own observations, that the best plan the student can adopt, is, as soon as the professor has described any particular part, as for example, the muscles, the arteries, viscera, &c. to dissect them with attention, while the observations he has heard, are still fresh in his mind. We, moreover, concur fully with the author, relative to the impropriety of the student attempting to prepare all the parts in the course of a single winter. His time is so much occupied in attendance upon lectures and other duties, inseparable from his course of studies, that it is impossible for him to accomplish so much; and by attempting it, he only confuses his mind, and completely fails in acquiring that information which it is so necessary he should possess. A much better plan would be, for him to divide the objects of his research, so as to have a portion allotted for each winter session. If the arrangements of our schools were such as to require three years attendance on lectures, (which we regret is not the case,) we would recommend that during the first winter, the student should dissect the muscles, ligaments, vessels, organs of digestion, respiration, urine, and generation; during the second, the brain, nerves, and organs of sense; and during the third winter, he should attend to topographical or surgical anatomy, dissecting the several parts of which the different regions of the body are composed, in the order in which they present themselves, and observing, with attention, their mutual relations.

He should, moreover, during the third winter, direct his attention to minute structure, or to the properties of the several tissues of which the entire organization is composed. Professor Weber has advised that this latter subject should be attended to first, by the student, even before he proceeds to dissect the muscles, or any other part of the body, but we feel assured, that there are but a small number of students, who at so early a period of their studies, would be qualified to conduct such investigations. But while we recommend general anatomy, as an object of attention during the last session, we are not insensible of the immense advantage the student would derive, from an earlier acquaintance with the properties of the different tissues.

The author goes on to speak of the advantages to be derived from dissection, and of the best means of realizing them; of the necessary instruments and apparatus to be possessed by the dissector, and finally, of the most successful means of preserving the health against the injurious consequences which arise from the influence of the unwholesome atmosphere of the dissecting room, and from wounds accidentally received in dissection. We cannot follow him through all these details, in which it will be sufficient to observe that his directions are judicious. We will merely subjoin, that amongst other means in common use to counteract the dangerous tendency of dissection wounds, he speaks of suction, first recommended by our respected collaborator, Dr. J. D. Godman, and subjoins, "that by comparing the result of the last sessions, during which this practice was adopted, with those obtained before, the good effects of suction were rendered very conspicuous."

Dr. Weber next enters into some considerations relative to the classification of the tissues, in which he objects to the arrangements made by Bichat, Walther, Dupuytren, Meckel, Rudolphi, Mayer, and Heusinger, and proposes one which he thinks better. According to this arrangement, we have nine tissues, of which number, seven are simple, and two compound. The seven simple tissues are, the cellular, fibrous, cartilaginous, osseous, muscular, nervous, and horny: the two complex tissues, or rather systems, are, the vascular and glandular. Each of these are divided and subdivided in such a manner as to make them include all the different modifications of the organization, and without greater inconsistency than is usually met with in all similar attempts at classification. We do not think, however, that the serous tissues should be made to constitute a part of the cellular, as they are in Dr. Weber's arrangement.

The author makes a brief, but satisfactory description of the properties of each of the tissues which have been enumerated, and at the conclusion of each subjoins the best means of dissecting or examining them. These directions are calculated to be of considerable advantage to the student, but do not contain any thing new.

The second volume of Professor Weber's work is devoted to the description of the muscles and ligaments. In looking over it, we find that the descriptions are generally well drawn up; and the directions which are given for the preparation of the muscles are good, and cannot fail to afford great assistance to students, for whom they were intended. The third volume, or second part of the special anatomy, containing the angiology and splanchnology is announced by the author, as in press, and it is doubtless published before this time. We think the whole work, as far as we have yet seen it, is well suited to the dissecting room, and that it cannot fail to prove a valuable acquisition to the student of anatomy. E. G.

Art. XXI. *Opuscoli di Chirurgia.* Di Antonio Scarpa, Professore Emerito, e Direttore della Facolta Medica della I. R. Universita di Pavia, Cavaliere dell insigne ordine Austriaco di Leopoldo, &c. &c. 2 vol. fol. Pavia, 1825.

The work, the title of which we have here announced, is made up of memoirs, composed by the author at different times, most of which have been already before the public. The object of the present publication is therefore to arrange and embody them, so as to render them more extensively useful, by facilitating their circulation. The first volume, of 190 pages, folio, and six highly finished copperplates, treats upon the following subjects:—1. A Memoir on Scirrhus and Cancer. 2. A Memoir on the Cutting Gorget of Hawkins. 3. A Note on Lithotomy. 4. A Memoir on the High Operation for Stone. 5. A Letter to Professor Maunoir, on the Recto-Vesical Operation for Stone. 6. A Collection of Cases relative to the same operation. 7. An Examination of the third Memoir of Professor Vacca, on the Recto-Vesical Operation. 8. A Note on the disadvantages of the same operation, when compared to the lateral operation. 9. A Memoir on Hydrocele of the Spermatic Cord. 10. A Memoir on Ascites taking place during Pregnancy. 11. Practical Observations on the advantages of the new method of practising the operation of paracentesis, in cases of Ascites succeeding Pregnancy. 12. Observations on the same operation, compared to that used by Mr. Langstaff. In the second volume, of 200 pages, and six elegant plates, engraved on copper by the celebrated Anduloni, the following subjects are treated: 1. Perinæal hernia. 2. The application of ligatures to the principal arteries. 3. Temporary ligature of the principal arteries. 4. The most speedy means of securing and obliterating the principal arteries. 5. The operation for aneurism. 6. Cataract and artificial pupil. 7. Rare cases in surgery. 8. An extraordinary accumulation of milk in the mammæ. 9. Extraneous bodies introduced within the rectum. 10. A varicose sanguineous tumour of the upper lip. 11. A varicose sanguineous tumour of the bony palate 12. Aneurism of the arch of the aorta, with erosion of the first rib and the sternum.

We have been thus particular in enumerating the contents of these volumes, as well on account of their great value, as from a desire to enable our readers to know where they can refer to the several memoirs and observations of the distinguished author, which have become exceedingly scarce in their detached forms. We would sincerely recommend every cultivator of surgical science to carefully study these memoirs. Like every thing which has come from the pen of the now venerable and renowned professor, they every where present the strongest evidences of great intellect, high attainments, extensive research, and excellent practical judgment and discrimination. There is especially one character presented by the memoirs in question, which we admire in all the author's compositions. Instead of being, like too many of our time, over anxious to brandish forth every thing which may appear novel, as a new discovery, he examines patiently in the first place what has been done by his predecessors and cotemporaries, and by comparing their observations, with the result of his own experience, he arrives at such conclusions, as facts alone can warrant.

He perceived and pointed out, at an early period, the numerous disadvantages attending the recto-vesicular operation for stone, so highly commended by M. Sanson, and Professor Vacca, and to the very able manner in which he has pourtrayed these disadvantages, in the volumes before us, and the bad success of the operation itself must be mainly attributed the disrepute into which it has already fallen, even though only a few years have elapsed since it was first recommended. We had occasion, in 1825–26, to see the justice of some of Professor Scarpa's objections fully verified. We had then an opportunity of seeing M. Sanson perform the operation several times at Hôtel Dieu, but although the stone was extracted with great ease, and without occasioning much constitutional suffering, either immediate or consecutive, and although some of the patients were cured, without much difficulty, yet in several cases a permanent recto-vesical fistula was the consequence, which no treatment could heal. This is an objection which we think must always prevent the operation in question from being often performed, and will, doubtless, when taken in connexion with others alleged by our author, ensure its ultimate neglect.

To enable our readers to form an estimate of the plates appended to these two volumes, it is only necessary to inform them that they are executed by Anduloni, who has already acquired so much reputation by the highly finished and splendid engavings which accompany the other publications of Professor Scarpa. Most of the subjects are represented of their natural dimensions, and with a degree of clearness and accuracy which we think no other engraver of anatomical subjects has ever attained. We sincerely trust, that the author may be yet spared, although he has already reached a good old age, to publish new editions of his other works, many of which are exceedingly rare. E. G.

XXII. *Nosologie und Therapie der Chirurgischen Krankheiten in Verbindung mit der Becshreibung der Chirurgischen Operationen; oder gesammte ausführliche Chirurgie für praktische Aerzte und Wundaerzte.* Von C. J. LANGENBECK, Ordeutlichen Prof. der Anatomie und Chirurgie, &c. &c. Erster Band mit drey Kupfertafeln Gœt. I. 1822, pp. 704. zweiter Band drey Kupfertafeln Gœt. 1823, pp. 984, dritter Band mit sieben Kup. Gœt. 1825, pp. 920.

When we reflect upon the numerous and rapid improvements which the Germans are daily making in the different departments of medicine, it is to us matter of astonishment that so little should be known of their medical literature, on this side the water. Indeed, with the exception of the names of a few of their most distinguished authors, it may be justly affirmed that we scarcely know any thing of the medical character of our indefatigable brethren of the north, and yet it is an incontestible truth, that they have within a few years contributed more to the advancement of some of the departments of medical science, especially anatomy and physiology, than any other nation. Nor have they been behindhand in surgery. While England can boast of her Hunter, her Bells, her Abernethy, and her Cooper, France of her Desault, her Dupuytren, her Boyer, Richerand, and Lisfranc, Germany has full reason to be proud of the names and reputation of a Graefe, a Rust, a Langenbeck, a

Klein, a Zang, a Seibold, and a host of others, whose labours have enriched the science, and established for German surgery an exalted and imperishable reputation.

We have been induced to make these remarks from the circumstance, that although the work of Professor Langenbeck, one of the most distinguished of modern surgeons, the title of which is placed at the head of this notice, has been before the public for some time, it is probably unknown in the United States. Convinced, as we are, of its high merits, we cannot avoid regretting that so little attention is paid to German medical literature, and that our numerous medical readers, who are unable to peruse works of merit in a foreign language, should not have these difficulties removed by the laudable enterprize of translators and publishers. Works, altogether worthy to be transferred into our language, are almost daily issuing from foreign presses, which, for want of the enterprize to which we have adverted, must remain, for the most part, unknown to the American public, except through the scanty gleanings which are contained in the journal.

Only three volumes of the Surgical Nosology and Therapeutics of Professor Langenbeck have as yet reached us, though the whole work is to consist of nine, of which an entire volume is to be devoted to the diseases of the eye, and another to those of the bones. Each volume is accompanied with copperplate engravings, representing the anatomy, diseases, instruments, operations, dressings, &c. In addition to these, may be advantageously taken in connexion with the work, the splendid anatomical engravings of the author, which embrace the entire anatomy of the human body. The configuration and structure of the brain are represented in forty copperplate engravings. The plates of the arteries and nerves are also done on copper, and are of a large size, one of them being four feet in length.

The first volume of the work is taken up with the consideration of the characters of inflammation, which are divided into general and special, implying by the latter, the numerous modifications presented by the process, as it attacks the different tissues. This division we consider highly advantageous, inasmuch as diseases are always modified by the character of the structures which they implicate, and correct views can only be formed by the application of general anatomy, to the elucidation of pathology. It is, in consequence of the adoption of this course of investigation, that pathological science has been brought to its present improved condition, an elevation which it owes to the discoveries made, and the impulse given, by the genius of Bichat. It therefore affords us much pleasure to see so distinguished an individual as Professor Langenbeck availing himself of the lights of general anatomy, to elucidate the principles of surgical pathology: a course which has been subsequently followed with great success by Roche and Sanson, Gendrin, and others. Such examples, we feel the proud conviction, will always do more to maintain the high claims of general anatomy, and to establish a conviction of its important influence, than can ever be effected towards destroying them, by volumes of such empty declamation, as that uttered by a late writer,* who has not only pronounced general anatomy to consist of unmeaning jargon, but has declared the most philosophic work on anatomy,* that has appeared in this, or any other age, as little better than an assemblage of nonsense and absurdities.

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* Dr. Knox.—Preface to his translation of Cloquet's Anatomy.

The observations on inflammation in general, are drawn up with much ability, and every where bear marks of the excellent critical acumen, with which the author has long since shown himself richly endowed. The general characters are not only pourtrayed with masterly clearness, but the principal doctrines upon the subject are criticized with great candour and judgment. It is by studying the characters of healthy and diseased structure, by investigating their functions, as well in health as disease; or in other words, by making anatomy, physiology, and pathology, advance hand in hand, and mutually support each other, that our author has been led to establish such principles, as are proper to direct with a prospect of success, the ordinary therapeutic procedures.

> "When," observes he, "my attachment to anatomical pursuits shall subside, my lectures, as well as my practice, will lose all their interest. This is, indeed, an event that can never take place; for when I look forward to a good old age, I feel the consolation, that when my eyes and hands render me an invalid in the practice of surgery, anatomy will furnish a substitute."

Professor Langenbeck makes the following division of inflammation, which we give without comment:—

1. Primitive, simple, or acute inflammation.—2. Secondary, or symptomatic inflammation.—3. Hypersthenic.—4. Asthenic.—5. Paralytic, or typhus.—6 Specific.—7. Chronic.—8. Metastatic.—9. Inflammatiom of the several tissues.

These several varieties of the process are examined in succession, their numerous modifications are minutely detailed, and finally, the principles of practice are carefully laid down. In considering the characters of inflammation, as it affects the different tissues, our author commences with the skin, and passes the subject successively in review, as it implicates the mucous, serous, fibrous, lymphatic, nervous, arterial, and venous systems, and under each head, he not only points out the pathological characters of the disease, but also the rules of treatment. The first volume is concluded with some very sensible observations relative to the subject of blood-letting, and the usual rules to be observed in practising it.

In the second volume we have an exposition of the conditions usually expressed under the appellation of termination of inflammation, as suppuration, ulceration, and mortification. The termination by effusion is considered under the head of dropsy, and that by induration under the head of tumours, or new developments.

Under the first head, or that of suppuration, the author very correctly observes, that the suppurative process may be developed under three forms, viz.: 1. In the substance of the tissues, giving rise to a cavity more or less extensive, filled with purulent matter, constituting what is called an abscess. 2. Upon the solution of a surface of continuity, which is, thereby, made to secrete pus, and to assume a condition which renders it impossible to heal it in any other manner than by the second intention. 3. From any of the natural surfaces, as mucous, serous, &c. which instead of their natural secretions, are made to elaborate pus. The considerations which have reference to the second form of suppuration, are transferred to the third volume under the head of wounds. The first form, or that of abscess, is ably examined, and the several varieties of the disease are carefully distinguished from each other. They are, 1, the acute or phlegmonous abscess; 2, chronic; 3, topical or local, not depending upon any constitutional cause; 4, constitutional; 5, metastatic; 6, superficial; 7, profound; 8, external; and 9, internal. Some of these distinctions we are disposed to consider superfluous, inasmuch as they do not express any fundamental difference, but merely some accidental circumstances, of but trifling consequence. The remaining part of the volume is taken up in the consideration of the subjects of ulceration and gangrene, both of which are treated in an able manner.

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* Meckel. Manuel d'Anatomie.

The third volume is devoted to the consideration of wounds, in connexion with which, are treated in a general manner, the subjects of hæmorrhage, aneurisms, &c. We regret that we are unable to enter upon an analysis of this part of the work. We have, however, no hesitation in affirming, that it contains a better digest of the doctrines and practice which appertain to those subjects, than any work we have seen.

The plates which are annexed to the work are small, but are well calculated to convey a proper idea of the subject which they are intended to represent. We have, however, observed already, that the anatomical plates of the author, may be taken in connexion with the work in question, by doing which, the student would have an excellent system of surgical anatomy and surgery united.

Having expressed ourselves in very favourable terms of Professor Langenbeck's work, we cannot dismiss the subject, without expressing the hope that the remaining volumes may soon make their appearance, and that the whole work may be completed in the highly creditable manner of the three first volumes.

E. G.

XXIII. *Anatomie Pathologique du Corps Humain, ou Descriptions avec Figures Lithographiées, des diverses Altérations Morbides dont le Corps Humain est susceptible.* Par J. Cruveilhier, Professeur d'Anatomie a la Faculte de Medecine de Paris, &c. &c. Fol. Paris, 1828.

The first five livraisons of this work are contained in the fasciculus before us, which according to the prospectus is about one-eighth of the whole. The livraisons appear every six weeks, and cost nine francs each, about two dollars of our currency; consequently, when the work is complete, it will cost eighty dollars. Considering the beauty of the plates, and their whole number, (240 when the work shall be finished,) the goodness of the paper, and the style of the press-work, this production of Mr. Cruveilhier is recommended by an extraordinary cheapness, such as would enable almost any medical man who is attaching himself to the study of pathological anatomy, to purchase it.

Good plates in anatomy are of the greatest service to the student and practitioner at every stage of his connexion with medicine; where subjects however are in abundance, they may be dispensed with in the study of the normal condition of the human body, but for pathological anatomy they are an absolute necessity. A description of a morbid alteration, however exact its language may be, generally fails to impress upon the reader the precise idea held by the writer, and if there should have been no common preparatory standard in plates or morbid dissections, the obscurity is still further increased. Moreover there are many morbid alterations of an uncommon kind, the traits of which, owing to the imperfection of the human memory, would be lost even to the observers of them, without an accurate painting; how much more difficult then would it be to communicate to others an idea of them by the mere abstractions of language. Mr. C. has stated with great justness in his introduction, that a faithful delineation of forms, colour, relative situation, dimensions, and details of texture augmented by optical instruments, present a picture as eternal as nature, and protected from the vacillation of systems. It reproduces incessantly the original image, recals to one person what he has already seen, and teaches another what he did not understand, dispenses with abstruse lectures, and leaves upon the mind deep and durable impressions.

The fasciculus of this work under our consideration, contains plates representing some important diseases of the placenta and uterus, of the ganglionic nerves, of the kidneys, of the spleen, intestines, lungs, heart, testicle, in fine, of the several viscera contained in the abdomen, thorax, and cranium.

At this early period, while seven-eighths are yet to appear, it would be objectionable to enter further into an analysis of its merits and pretensions. It may therefore be sufficient to state, that from the opportunities known to be in reach of the author—from his preceding contributions to the profession—and from the style of execution, and the subjects introduced into the five first livraisons, this work promises to be of the greatest utility, and comes recommended to us in the strongest and most unequivocal manner. W E. H.

XXIV. *Address to the Community on the Necessity of Legalizing the Study of Anatomy.* By order of the Massachusetts Medical Society. Boston, 1829, pp. 27.

We have read with much pleasure this document, and find in it the most satisfactory reasons in support of the object stated. It has often been a matter of astonishment to us, that with the sound practical sense which is exhibited in the whole organization of society in New England, that with the efforts which are continually made there, to improve the moral and physical comforts of its inhabitants, laws of the most oppressive and unreasonable kind hang like an incubus over the study of anatomy, and by their proscriptive violence, and frequent application, close this only avenue to sound medical knowledge. We trust, however, from the fairness and strength of the present appeal, and the bold and manly way in which it has been taken up in the report of a committee of the Massachusetts legislature, that a new order of things is about to commence, that vulgar and ignorant prejudices will yield to the cause of humanity and of science, and that by the freedom with which practical anatomy may hereafter be cultivated in New England, the vigorous and attractive state of her social institutions will be completed.

We are the more pleased with this Address because it is a candid and open exposition of difficulties, and of the means of relieving them. It is a statement directly to the point, and must have weight if common sense and common philanthropy are to be arbiters, and we trust that there is too much of both in the community to which the argument is addressed, for it to be controverted or passed over.

The Address, after some general observations on the indispensable nature of anatomy to the accomplished physician, which are sufficiently familiar to every medical man, goes on to quote several striking instances of the loss of life from patients falling into incompetent hands. An aged practitioner reports more than a hundred persons, under his own observation, dying from strangulated hernia, and the question is very naturally asked, "how great must have been the number in the whole of New England, who perished miserably from the same cause?" There are also several interesting cases given, somewhat at large, of death from the accidental wounding of large arteries by the ordinary implements of husbandry, and other instruments. There is much good sense in making these statements, because positive instances of evil, are always more readily comprehended than mere abstract argument, and where a question of human misery is concerned, our sympathies are inevitably excited. It has been our misfortune to witness several of those horrors in the practice of surgery, arising from an ignorance of anatomy on the part of operators. If there were no other object in view than to stigmatise an individual, charity would induce us to suppress the narrative, but as an important argument is in question, it is proper to adduce it. During the brilliant campaign of our army, in 1814, on the Niagara frontier, many cases of severe wounds required surgical operations. A surgeon occupying a distinguished station through his commission, but certainly not through any professional qualification, was a chief operator. We saw this person, in an amputation of the thigh, fail to cut through the great sciatic nerve; after the bone was sawed through, the limb still hung on by this nerve; ignorant of its nature, he made a plunge at it with his saw, the screams of the poor soldier attested the concentrated agony of a thousand operations, until the operator was implored by an assistant to desist and to use a knife. A captive officer of the enemy was wounded in the forearm, by a musket ball, and from the division of an artery, the bleeding was profuse; several days were spent in attempting to arrest it with a tourniquet. The pressure of the latter at length caused great tumefaction of the limb, and threatened mortification. The same operator instead of taking up the main artery above the wound, amputated the limb, and the operation being performed while it was in a state of inflammation, the pain was immeasurably augmented, and the poor fellow finally fell a victim to the want of scientific skill. Such are the lamentable and shocking consequences of entrusting the lives of people to the uneducated in anatomy.

The Address combats with success the arguments against carrying on dissections in New England. One of them is of a very singular kind, for it proposes to the student to go elsewhere for his anatomy, to New York, Philadelphia, or Paris, no matter where. This is certainly very unjust and unreasonable; if dissections are in themselves improper, it amounts to a proposition to impose the evil upon other places, for the benefit of New England; a notion so selfish that we can scarcely believe it to be entertained by any conscientious individual, let his prejudices be what they may. The proposition also presumes upon what is contrary to the fact, that every student of medicine is in circumstances sufficiently easy to enable him to encounter the expense of a foreign education.

The remedy for the want of subjects, proposed by the Address, appears to us both fair, humane, and sufficiently deferential to the existing prejudices of society. In every populous community, persons are found who have no ties of consanguinity, relationship, or friendship, and it is generally admitted that the violence done by a dissection is not to the subject of it, but to living individuals who are near connexions. But if the latter do not exist, the only consequence of a dissection is the exchanging of the loathsome putrefaction of the grave, for the nice and attractive separation of the constituents of the body by an anatomist. We believe that there are few persons who upon seeing a dead body in a state of putrefaction would not think the latter by far the more horrible mode of man's returning to the elements which compose him, and would not compromise for something less humiliating and less disgusting. Burning, embalming, in short any of the modes resorted to by nations, depending upon their peculiar customs, are, when philosophically considered, preferable to our going through the same process of decomposition, which marks the end of the lower orders of animals, and yet the prejudices of education make us close our understandings to one of the most obvious laws of nature.

To return, however, to the remedy. It proposes that the legal restrictions upon dissections shall not apply in the case of individuals who have no living relatives or friends to deplore their loss, and to bestow upon them the rights of sepulture, and who have been kept at the public expense. This proposition, though sound, is delicate—it draws an obnoxious line between the poor and the rich, and is therefore liable to popular objections. Here lies the difficulty, and to make acceptable so practical a distinction as this, in a country where all persons are theoretically equal, requires a casuistry of no small acuteness and ability. It appears to us, that the best way of avoiding this dilemma, would be, to declare by a legislative enactment, what is admitted both by reason and revelation, that no dead body is intrinsically of any value, for the fiat is irrevocable, "dust thou art, and unto dust thou shalt return;" that relatives and friends, however, possess a right to the remains of their dead, which right they may exercise in any way they think proper, and be secured in, but that in the case of individuals not connected with the living by cherished associations, their bodies are to be estimated only by the rule of positive value, and that if a grievance can be proved to have been suffered by any one through their dissection, the party may obtain equivalent damages, by law or otherwise.

A regulation of this kind would be just and would provide sufficiently for the case in point; but an abstract and sweeping legislation on dead bodies appears to us absurd, because it makes of consequence a mass of matter which the laws of nature sufficiently prove must return rapidly, sometimes in a fortnight or less, to the elements which compose it. If a wrong, then, be suffered by a dissection, this wrong is inflicted upon the feelings only of the living who were nearly allied to the dead, but where from the want of relatives and friends it is not possible for such feelings to exist, it is obviously absurd to make in point of law the latter case a parallel with the former. Our meaning is that the sanctity of the tomb should be protected by sufficient laws, but that in the case of a prosecution for violating it, it should be made to appear that there is an aggrieved party, and a more substantial plaintiff than the general and indefinite prejudices of society. The real esteem felt for the dead would then show itself by the persons actually interested, coming forward to spend their time and money in the prosecution.

If things were put upon such a footing, society would soon adjust itself upon this point of right, as it does upon all others—and that knowledge of anatomy for which they look in their physicians, and which is indispensable to their comfort, would be always attainable. We have no doubt that a community is frequently made by the laws, as they exist, to perform a part in a prosecution for dissection, which part is diametrically opposed to the sentiments of a large majority. It is quite time that an art so important as anatomy to the interests of humanity should be properly represented, and have fair play, in a court of justice; and that the laws of society should not present the monstrous inconsistency of making a surgeon punishable for the mal-treatment of a patient, and also punishable for resorting to the only means by which he can get information on surgical cases.

It is an egregious mistake to suppose that in a question of dissection, the interests of society are upon one side, and those of physicians on the other—for as dissections are actually only practised for the public good, the proper array of parties is to put upon one side the relatives and nearest friends of the deceased, and on the other, the community with its medical corps. The issue of a fair trial would then show the amount of damage sustained, and a suitable verdict would be rendered. We have but little doubt that the progress of the human mind, and the application of the principles of our benign religion, will ultimately put dissections upon this footing, and we should rejoice to see Massachusetts, the cradle of our political independence, also the cradle of our mental regeneration in this respect. W. E. H.

XXV. *The Anatomy, Physiology, and Diseases of the Teeth.* By Thomas Bell, F. R. S., F. L. S., F. S. S., Member of the Royal College of Surgeons in London, &c.; Lecturer on the Anatomy and Diseases of the Teeth at Guy's Hospital, and Surgeon-Dentist to that Institution. Carey & Lea, 1830. 8vo. pp. 351, plates XI.

On a former occasion we noticed some of the principal works on dentistry, and pointed out how much a complete treatise on this department, *au courant* with the present improved state of physiological, pathological, and therapeutical knowledge was wanted. This desideratum is indeed universally felt and acknowledged, and to furnish it—to correct the errors, and supply the deficiencies of other writers—to place in the hands of the student and of the medical practitioner, a plain and practical digest of the information at present possessed in the art—and to lay before them the result of the author's own investigations and experience, is the object of the author of the treatise, the title of which is at the head of this notice. In the accomplishment of his design, Mr. Bell has succeeded to a very creditable extent, his work being decidedly the best that has appeared, at least in our language. The author is not a mere compiler, but as we are informed, has been long distinguished as an able practical dentist and scientific lecturer on dental surgery, at one of the principal hospitals in London. His treatise is divided into two parts—the first is devoted to the anatomy and physiology of the teeth—the second to their diseases and treatment. The very nature of the work, renders it impossible to present an analysis of it within the limits of a notice like the present. We must therefore confine our-

selves to merely expressing in general terms our favourable opinion of the work, and acknowledging the pleasure and instruction that we have derived from its perusal.

XXVI. ***Atlas Historique et Bibliographique de la Médecine composé de Tableaux sur l'Histoire de l'Anatomie, de l'Physiologie, de l'Hygiene, de la Médecine, de la Chirurgie et de l'Obstetrique, &c.*** Par Casimir Broussais, Docteur en Médecine, Chirurgien Aide-Major du Gymnase Normal Militaire et Civile, Professeur Agrégé a la Faculté de Médecine de Paris, &c. &c. Paris, 1829. Folio, pp. 44.

This work consists of seven tables, the first devoted to the history of anatomy, the second to that of physiology, the third to hygiene, the fourth to medicine, the fifth to surgery, the sixth to obstetrics, and the seventh to a chronological coup d'oeil of all the epochs. The tables are arranged on the same plan as those in Lavoisne's Atlas, and exhibit at a single view the history of the science—its principal epochs—its progress in different countries—and the names of those who have cultivated it with most success, the period at which they flourished, the country in which they lived, and their principal discoveries or works. Joined to each of these tables, is a list, arranged alphabetically, of the authors of the principal works in the department to which the table is appropriated, with the title of their first work, and the period of its publication. Following these tables, there is a list of the principal universities and schools of medicine, with the date of their foundation—a catalogue of the editions of Hippocrates, Celsus, Erotien, Galen, Oribasis, and Avicenna, with the names of their translators—a list of the principal medical journals—and a catalogue of the chief works on the history of medicine.

Our limits will not permit us at present to discuss the value of a knowledge of the history of our science, or to point out the merits and faults of the work of M. Broussais. The former we regret the less, since it can hardly be suspected that any one of intelligence can doubt its importance; and as to the latter, we should have so much more to commend than to censure, that we are satisfied to pass over the faults, and recommend the work to the attention of the student. We must, however, remark that the American physician, in examining this work, will be disappointed in not finding any notice of many of those who have contributed most to the progress of medicine in this country, while he will learn for the first time, of the celebrity, probably the very names, of some of those quoted by M. Broussais.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Congenital Absence of the Iris without loss of Vision.*—The congenital absence of the iris, without loss of the sense of sight, is one of the most uncommon and singular organic anomalies. M. Rudolphi, (Grundriss der Physiologie, t. ii. part i. p. 221,) has doubted whether it has ever been observed; but we are now in possession of many facts which leave no room for incredulity. The change from the natural state to the total absence of the iris appears to be formed by congenital irregularities in the figure of the pupil. The first degree of anomaly is constituted by the oblong and perpendicular pupil, like that of the cat. Another preternatural formation consists in the division of the iris from the inferior margin of the pupil to the union of the cornea with the sclerotic coat.

Dr. Behr briefly reports all the known cases of total absence of the iris. Klinkosch, (Programma quo sect. et demonsta. indicit. Prague, 1766; Meckel, Pathol. Anat. t. i. p. 395,) first observed this anomaly, but in a case where there also existed organic malformation of the eye and the whole body. The first case of complete congenital absence of the iris, without any other complication, was communicated to the Société du Cercle Medical de Paris, by Mr. A. Morisson, of London, (Nouveau Journ. de Med. &c. t. vi. p. 105;) M. Baralta has described two eyes, in each of which the iris was wanting, (Praktische Beobacht. über die vorzüglichsten Augenkrankheiten.) Professor Dzondi mentions a similar case, (Rust, Mag. f. d. ges. Heilkunde, t. vi. p. 33; and another is reported by Dr. Pænitz, of Dresden, (Zeitschrift für Nat. und Heilk. t. ii. p. 214.) Lastly, M. Behr gives us the details of the following case, which he himself saw.

Caroline Schwabe, born in 1826, from the first day of her life, was so sensible to the impression of light, that she cried loudly whenever any luminous rays fell upon her eye. Her mother could perceive nothing peculiar in her eyes; but M. Behr, upon examining them in May 1827, discovered a total absence of the irides. The eyes of the mother and father were blue, and naturally formed. The child presented no other irregular formation, excepting that the upper eyelids were thick and swollen, and the eyebrows covered with light weak hair. By degrees the infant became accustomed to light, but the eyes were always very mobile, and agitated in their orbits. The cornea was rather more convex than usual. In November 1827, she was attacked with measles, accompanied by excessive sensibility of the eyes. September 1828, the child could direct the eyes steadfastly to any object, and the sclerotic was now seen of a bluish tint, and the large pupil of a deep black colour. When the child was placed at the extremity of a room, and rays of light were directed through the window upon the eyes, a phosphorescent redness was perceived, which gave to the eye the aspect of a luminous ruby, or of a burning coal. The visual faculty did not appear to be affected by this anomalous structure of the eyes. The child, however, seemed to be more comfortable in the weak light of the evening: she was then more cheerful and playful than at other times. She could see also in almost total darkness. The brightest colours, as red or yellow, were the most agreeable to her. If she wished to examine any minute object, she drew it very near her, and always placed it below the visual axis. It appeared painful to her to look upwards, even in a weak light. The other senses were perfect, and her hearing was remarkably acute.—*Lond. Med. and Phys. Journ. Jan.* 1830, *from Hecker's Ann. April*, 1829.

2. *Communication of the lymphatic Vessels with the Veins.*—M. De Blainville read to the Academy of Medicine at their sitting on the 3d of August last, a letter from Dr. Dubled, agrégé of the faculty of Paris, in which this physician announces that he has injected the two inferior thirds of the thoracic duct, and some of the neighbouring lymphatic vessels, by forcing an injection by the inferior vena cava. He has observed that in order that this passage may take place it is necessary that the last mentioned vein should be forcibly distended, and to verify this fact he has made the following experiment:—The inferior vena cava having been tied below the diaphragm, in a living animal, he found many hours afterwards, blood in the thoracic duct, and in some other vessels of the same system.—*Archives Générales, Nov.* 1829.

PHYSIOLOGY.

3. *Partial Loss of Memory.*—The late Dr. Schoerf, the author of several valuable medical works, on his recovery from a violent attack of fever, did not recollect a single word of Latin, though his memory in every other respect seemed perfect. He was very uneasy, not knowing how he should be able to write his prescriptions; but after a few days of convalescence, Latin words returned insensibly to his memory as his strength increased, and finally he became as good a Latinist as ever.—*Hufeland's Journal, Dec.* 1828.

4. *On the Regeneration of Bone.*—M. Flourens read a communication to the Royal Academy of Sciences, at their meeting on the 20th July last, on the regeneration of bone. M. F. has made a number of experiments on young birds, principally pullets, and the following are the results at which he has arrived. 1st. If the external periosteum of a bone of the cranium be removed, the external lamina of this bone becomes necrosed, and is thrown off; in this case a new periosteum is first formed, afterwards a cartilage, which subsequently ossifies. 2d. If a bone of the cranium and its periosteum is removed entire, the dura mater remaining perfect, this latter membrane reproduces only the internal lamina of the bone; the external is reproduced, as in the preceding case, by a periosteum newly formed. 3d. If the periosteum, the bone, and dura mater are removed, a new periosteum and a new dura mater are first formed, afterwards a double cartilage is produced between these two membranes, which is finally converted into two osseous lamina. 4th. All bones are not susceptible of reproduction; those which the author has seen reproduced in his experiments are, the frontal, the occipital, the parietal, and the other bones of the vault of the cranium; but the osseous envelope of the semicircular canals, and these last themselves are not reproduced. Nevertheless if a canal has been only divided, the two ends reunite after a time and are connected by a bone which at that point obliterates the cavity of the canal. M. F. gives the following account of the mechanism of this reproduction. 1st. It is always the periosteum or the dura mater which is first reproduced, and they afterwards reproduce the cartilage and the bone. 2d. It is always the old periosteum and the old dura mater, which give birth to the new periosteum and new dura mater; it is also at the borders that the new or-

ganization always commences. 3d. The new bone is never as regular in its structure as the primitive one; the two lamina of which it is composed are often confounded together, or at least are only separated by an imperfect diploe. 4th. An effusion of organizable lymph, at the border of the part which forms it, always precedes a new progress of formation.—*Archives Générales, Oct.* 1829.

5. *Instance in which Life was supported for a length of time by the Absorption of the Fluids of the Body.*—A very curious instance of life being supported by the absorption of the fluids of the body, is related by Mr. Granger, in his *Elements of General Anatomy*, as having occurred some years since at Dover. "A hog weighing one hundred and sixty pounds, was buried under a portion of the cliff, which fell on its stye, for the long space of one hundred and sixty days. At the end of this time, being dug out, it weighed only forty pounds, and was extremely emaciated, clean, and white. As there was neither food nor water in the stye, when the cliff fell, this hog must have existed during the time mentioned, by the removal of the adipose and other fluids from their containing structures into the circulating system."

6. *Reciprocal Action of Gases through Animal Membrane.*—It would appear from the following singular observation, made by Thomas Graham, Esq. Lecturer on Chemistry, at Glasgow, in the course of an investigation respecting the passage of mixed gases through capillary openings, that endosmose acts upon aëriform matter, as it does upon bodies in the liquid state. We feel every day more and more convinced that this property acts a most extensive and important part in the functions of the animal economy.

"A sound bladder with a stopcock was filled about two-thirds with coal gas, and the stopcock shut; the bladder was passed up in this flaccid state, into a bell-jar receiver filled with carbonic acid gas, and standing over water. The bladder was thus introduced into an atmosphere of carbonic acid gas. In the course of twelve hours, instead of being in the flaccid state in which it was left, the bladder was found distended to the utmost, and on the very point of bursting, while most of the carbonic acid gas in the receiver had disappeared. The bladder actually burst in the neck, in withdrawing it from under the receiver. It was found to contain 35 parts of carbonic acid gas by volume in 100. The substance of the bladder was quite fresh to the smell, and appeared to have undergone no change. The carbonic acid gas, remaining without in the bell-jar, had acquired a very little coal gas.

"The conclusion is unavoidable, that the close bladder was inflated by the insinuation of carbonic acid gas from without.

"In a second experiment, a bladder containing rather less coal gas, and similarly placed in an atmosphere of carbonic acid gas, being fully inflated in fifteen hours, was found to have acquired 40 parts in 100 of this latter gas. A small portion of the coal gas left the bladder as before.

"A close bladder, half filled with common air, was fully inflated in like manner, in the course of twenty-four hours. The entrance of carbonic acid gas into the bladder depends, therefore, upon no peculiar property of coal gas. The bladder, partially filled with coal gas, did not expand at all in the same bell-jar, containing common air or water merely."—*Quarterly Journal of Science, October,* 1829.

PATHOLOGY.

7. *Wandering Paralysis with loss of Memory.* By Dr. Duquesnell.—A mason, aged about twenty-five, married eight days, of rather a robust constitution and sanguineous temperament, had had in 1823 pneumonia, during which symptoms of hypertrophy of the heart appeared, which since made but

little progress. At different periods he had been attacked with pulmonary catarrh and slight gastritis, attended with violent pain in the epigastrium. June 29th, 1829, the temperature of the weather being moderate, he returned from Senlis to Royaumont. The next day he complained only of a slight cough, (he had had for several days a slight catarrh.) About two o'clock in the afternoon, he experienced suddenly, whilst eating, a very acute pain in the left masseter muscle and articulation of the jaw of the same side, and felt a kind of crepitation in these parts. This pain in a short time extended itself over the whole corresponding side of the head and neck. Afterwards giddiness, dimness, tennitus aurium and difficulty of pronunciation supervened. He went to bed, where Dr. D. saw him at 5 o'clock, at which period he was in the following state: face red, much injected; eyes brilliant, pupils moveable, look astonished; mouth and tongue natural; pulse slow and full, intermitting every third or fourth pulsation; acute pain over the whole of the left side of the head and neck, augmented by the touch, especially on the region of the masseter muscle, which was slightly swelled. Incomplete paralysis of the whole right side, the limbs of which side were incapable of voluntary motion; when pinched strongly, sensation was experienced, and a slight movement was perceived. After having well verified all these symptoms, Dr. D. retired to another room, and to his great surprise saw in a few minutes the patient enter after him, walking alone and without any aid, the right arm hanging, and without dragging the right leg. He laid down on a bed that was in this room, and there Dr. D. examined him anew; he presented the same symptoms as before, only the right lower extremity had recovered a little its power of motion; however the patient experienced a great difficulty of speaking, and could not answer the questions asked him, though he understood them very well, except by the monosyllables *oui, non, bon, bien, ne, pas*, and by the words, *je n'peux, je n'peux bien, je ne,* which he often repeated involuntarily, and very absurdly, though he knew what he ought to answer. Some hours afterwards the limbs recovered the power of motion, and his speech improved. Leeches were applied behind the ears, cold applications to the head, sinapisms to the legs, enemata of sulphate of soda, and emollient cataplasm to the cheek.

July 1st.—The patient had slept well; the leech bites had bled freely, alvine evacuations abundant. Face less red, eyes less haggard, tendency to drowsiness, tennitus aurium, diminution of pain, no trace of paralysis, pronunciation better, but he could articulate only the words already mentioned. Same remedies were ordered to be repeated.

July 2d.—The patient was up and walking, as if in perfect health; but the difficulty of speech and the forgetfulness of words had not much diminished. With a book in his hand, he read aloud fluently and without stuttering, but he could not with all his efforts repeat more than two or three words of a sentence, even a very short one, which he heard. After a short time, he was able to perform addition upon paper, but could not by memory. Though he had been accustomed to sing every night, he could not recall a single word of his most familiar songs. The condition disappeared gradually, and by the commencement of August, there only remained a slight defect of memory.—*Archives Générales, November,* 1829.

8. *Loss of Sensation in one-half of the Body without Loss of the Power of Motion.*—Notwithstanding the numerous researches of modern physiologists, and the ingenious experiments they have instituted to elucidate the mechanism of the functions of the nervous system, we are still ignorant what portions of the brain are the exclusive seat of sensibility, and what determine the movements, though observations similar to the one we are about to notice, show that these faculties are entirely isolated. The following interesting case, related by Dr. Le Sauvage, of Caen, in the *Archives Générales*, for November last, affords a very remarkable example of the possibility of the loss of sensation without the locomotive faculties suffering in the slightest degree. A man

aged seventy-three, well made, habitually enjoying good health, had perceived for fifteen days some giddiness, when on the 10th of March, 1828, being about fifty steps from his house, he experienced suddenly a numbness in the whole of the left lower extremity. It appeared to him that his foot sunk deeply, and he seized his thigh with both hands, as if to prevent its sinking into the ground. Almost at the same instant, the numbness extended over the whole left side. Alarmed at this unusual condition, he became anxious to get home, and ran with facility that distance. The next day Dr. Le Sauvage was sent for, who found the patient in the following condition; the intellectual faculties natural; the pulse nearly the same in both sides of the body; he could walk, move his arms, and take hold of objects without difficulty, only the elevation to which the arm could be raised by the deltoid was a little limited; but he had no consciousness of the movements he performed, nor of the bodies he touched. The skin over the whole left side was absolutely insensible; he might be pinched and pricked on this side ever so much, without his perceiving any pain, or even without his being aware of it. At the anterior part of the body, the median line was not the precise limit of the sensible parts. On the left side, the skin possessed sensation to the extent of about an inch from this line: beyond this point there was complete insensibility on this side. On the affected side, the sight and hearing were perfectly natural, but the senses of smell and taste were lost. When the left half of the tongue was wet with strong vinegar, the patient did not taste it in the least, whilst the taste of this fluid was strongly perceived by the other half of this organ. Strong odours placed under the left nostril were not perceived, except when the patient made a strong inspiration, but then the odour passed to the right nostril through the posterior nares. When the hand was placed upon the head, the patient felt only that portion resting on the right half, &c. This affection has hitherto resisted all treatment. The constitution of the patient, however, does not appear to have suffered any injury.

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9. *Case in which Blood was found in the Lymphatics.*—A man, aged thirty-six, of middle size, and rather robust, experienced for some days general indisposition with considerable prostration of strength, without any apparent cause. He next perceived that the upper part of the neck on the right side, became swollen and covered with phlyctinæ, over a space equal in size to that of a five-franc piece. In the centre of this spot the epidermis was raised, and discovered the dermis, which was of a brown colour. At the same time the lips swelled, and became covered with minute miliary vesicles. There was anorexia, fever, and oppression: the patient seemed to have the commencement of a severe attack of erysipelas, or even of malignant pustule. However, the general symptoms as yet indicated nothing alarming. The patient was ordered to be watched, while simple beverages and attention to diet were enjoined. He died the same evening, without having presented any other symptom.

Examination.—The cellular tissue beneath the exanthematous patch on the neck was ecchymosed, but no other change was perceptible at this part. The stomach had elevated patches scattered over it, similar to those which are met with about the ileo-cœcal valve. The rest of the alimentary canal was free from disease. The body was sent to La Pitié for dissection, where some pupils having removed the abdominal viscera, were proceeding to study the muscles of the loins and pelvis. In raising the peritoneum which covered the lower part of the spine, they found on the last lumbar vertebræ, and in the hollow of the sacrum, a set of vessels highly injected, and of a deep red colour. Their disposition, numerous anastomoses, and connexion with the lymphatic ganglia, left no doubt of their nature, and it was perceived that all this system of vessels was filled with blood. Whence came this liquid, or how had it found its way into an order of vessels which does not naturally admit it? None of the neighbouring organs had been the seat of hæmorrhage; neither veins nor arteries were altered, in a word, there was nothing to explain the phenomenon. These lymphatics were traced upwards with great facility, into the thoracic duct, which was injected in the same manner, even till its junction with the subclavian vein, which was in its natural state. The liquid from the lymphatics was analysed by M. Barruel, and ascertained to be really blood; and a drawing was made from the preparation by Dr. Carswell, so as to preserve the appearances.

Changes in the lymphatic system become less rare, in proportion as investigations relating to it multiply. Besides the facts recorded by M. Andral, others have been collected in England and Germany, which prove that the thoracic duct is susceptible of alterations no less severe than numerous: it has been found filled with pus, with softened medullary degeneration, &c. obliterations of the duct have been noticed; partial dilatations and strictures, or narrowings, of a greater or less extent; its parietes have been found ulcerated, thickened, and altered in various other ways. But the particular pathological fact which we have above related, is regarded by MM. Dupuytren, Breschet, and Sanson, as unique.—*Lancette Française.*

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10. *Case of Disease of the Lymphatic System.*—This interesting case was communicated to the Royal Academy of Medicine by M. Amussat. A lad aged 19, had a swelling in each inguinal region, which had been treated during five years by compression. Although the application of the truss always caused considerable pain, it immediately subsided after its being taken off; whenever he attempted, however, to walk without the bandage, the pain in the tumours became almost intolerable. On his arrival, and during the first days of his stay at Paris, he felt pretty well. On the morning of the 7th of November, however, he awoke with violent pain under the right breast and in the groin, and great difficulty of breathing; the tumours were very tender, and the skin over that of the left side slightly inflamed. There were no local or general symptoms of incarcerated hernia. Venesection from the arm, leeches and fomentations to the tumours, and a warm bath, were without any effect; the abdomen became tympanitic, &c. and the patient died on the 9th of November.

On examination of the body twenty-four hours after death, the tumours were found to be deposits of purulent matter, contained in very thin cysts, the texture of which somewhat resembled that of the serous membranes; they communicated with the abdomen by means of the crural arch, and descended to a considerable extent between the fascia lata and the muscles of the thigh. The peritoneum contained a great quantity of purulent matter, which at first sight was supposed to be the result of psoitis. On careful examination of the thoracic duct, however, it appeared that this canal, as well as the whole of the lymphatic vessels of the abdominal cavity, was filled with real pus. M. Amussat tied some of the lymphatic branches, which were considerably enlarged, and showed to the entire satisfaction of the practitioners present, that these vessels communicated with the accumulation of purulent matter, and that the canals filled with pus, which they had considered as being the result of feculent infiltration in the cellular tissue, were actually enlarged lymphatic vessels. The tumours in the inguinal regions were found to be lymphatic vessels enormously dilated, so as to resemble hernial sacs.—*Gazette de Santé.*

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11. *Case of Idiotism and Aphonia, produced by Fright, in a Woman at the Seventh Month of Pregnancy.*—This interesting case is related by Madame Boivin, in the *Journal Complementaire du Dictionnaire des Sciences Médicales.* A female, aged twenty-three, nervous constitution, bilious temperament, dark brunette, a mother at the age of twenty, her labour taking place at the seventh month of pregnancy, in consequence of bad treatment from her parents. The accouchement was preceded and followed by an abundant metrorrhagia and frequent faintings. Her health was however restored, and she left her paternal mansion and went to Paris. She again became pregnant, and at the sixth month of uterogestation she became extremely jealous, violently reproached and menaced her lover, who after vain attempts to calm her, threatened to have her removed

from his dwelling by force, and went out to seek a police officer. The patient immediately hid herself, and it was not until after a long search that she was afterwards found in a closet of a wardrobe. She was found in a state of stupor, which was at first supposed to be feigned. But nothing that could be said could induce her to leave her retreat or change her attitude or expression. It was necessary to remove her, and a physician was called, who thought that the patient was feigning. She however did not speak, nor make any signs; she did not exhibit any wants, and preserved any position in which she was placed. In this state she was taken to *La Maison Royale de Santé*, August 20th, 1820, two days after the occurrence, and was placed under the care of M. Duméril. She was here carefully watched by a special attendant. Her aspect at this period was frightful—her black hair stood erect on her head—her dark face, thin and excessively pale—her large black eyes, surmounted by thick eyebrows of the same colour, were fixed and prominent—her mouth wide open, and her chin resting on her chest. When any one entered her chamber, she turned her head, looked aside with an expression of fear, afterwards examined the person attentively as long as they continued in the room. She did not speak nor move; it appeared as if she did not understand any thing that was said to her. Her appearance was so hideous that she was called by the other patients the vampire.

This singular state was unaccompanied with fever. An infusion of orange leaves, and a draught with ether, were ordered; but twenty-four hours elapsed without its being possible to induce her to take a cup of this liquid: she had not taken any thing during the preceding two days. In the course of the fourth day, the sixth from the attack, she refused as usual the drinks which were offered her; but she made signs that she wanted an empty bottle that was in her sight, which was given her, when she put into it some of the fluid, and drank for the first time during six days. She had only urinated once, and then in her bed, and had not slept during this period. She continued afterwards to take drinks, but only with the bottle. A *duoche ascendante* produced an evacuation from her bowels for the first time in six days.

The fifth day she took a little soup, and she was taken into the garden. She sat upon the ground, collected together the sand, selected the pebbles and shells that she found in it, and amused herself as if she were an infant of two years of age. Some one pretended to wish to take them away from her; her face immediately took on an expression of great anger, and afterwards she wept heartily. When the pebbles were returned to her, she exhibited a stupid joy. She continued this puerile amusement during twelve days; her speech did not return, and she did not give any sign of a return to reason.

The sixth day a large blister was applied to her neck, but neither during the drawing or dressing did she exhibit any signs of pain.

On the eighth the shower bath was ordered. The patient on being stripped entirely of her clothes, made no resistance. When the water fell upon her she appeared seized with fright; her limbs were violently agitated; but she did not attempt either to rise or remove herself; she neither groaned or cried; her respiration became suspended; finally, syncope came on, from which she was with difficulty revived. After being placed in bed she slept many hours. She showed afterwards by signs that she remembered the shower bath.

On the twelfth day she showed by signs that she had pains in her right leg. A flying blister was applied to her knee and the pain disappeared. From this period she attempted to speak; she moved her lips, but she did not articulate a single word.

The fifteenth day, when she was asked how she had passed the preceding night, she took a piece of paper and pencil out of the hands of the interrogator, and wrote down an answer. She asked at the same time where she was; and appeared much astonished on being told that she was in a hospital in Paris. During three days she communicated in this way with her attendants.

On the nineteenth day she was attacked with pain in her back, which becoming more violent, she uttered a shriek and afterwards exclaimed, "Ah! mon Dieu!" The attendants surprised and frightened, repeated the exclamation, and ran into the passages and wards, crying the vampire has spoken. The patient in her turn appeared equally surprised at what was passing around her; her attendants on recovering from their surprise, re-entered her chamber to congratulate her. She inquired of them what there was extraordinary about her? whether she had not spoken before, and said she believed that they had been deaf. When her history and appearance were detailed to her, she joined heartily in the laugh.

From this period she continued to speak with facility, and even very agreeably. Her appearance became very pleasant, and her eyes assumed an expression of the utmost mildness. She did not recollect any of the circumstances which had preceded or attended the disease; not even the shower bath, which had produced so violent an effect.

The sight of her lover, who visited her during her disease, did not produce any effect upon the patient; she regarded him at first with fright, as she did others.

The patient remained in the hospital until after her accouchement, when she was discharged well.

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12. *Intermittent Aphonia.*—A very remarkable case of this is related by M. Rennes, Professor in the Military Hospital of Instruction at Strasbourg, in the *Archives Générales*, for June last. The subject of the case was a Madame M. a brunette, of middle size, aged forty-six, married at the age of twenty, residing constantly at her country seat, at Pengord, in the midst of a wood, where the air is good, presenting nothing in her physical constitution, or in her character, which is extremely cold, that could lead to a suspicion of a predominance of her nervous system. Her regimen has always been regular; her life tranquil; she never had any violent disease; she has had two children, the youngest is twenty-one years of age. This lady was attacked annually, from the age of thirty-three years, with aphonia. These attacks were abrupt, and came on at noon, unaccompanied at first with any local or general uneasiness. The loss of voice was sudden and complete, and lasted till midnight of the same day, when speech returned in the same rapid manner in which it was lost. This occurred every day for about three weeks, and then ceased. Three of these accessions, each of a fortnight or three weeks duration, took place in the course of the first year, 1812, and the same course obtained for a few years afterwards. In 1819, the periodicity became more regular. Each year, in the month of February, the approach of the malady was announced in the morning, by wandering pains, shiverings, and horripilations. Exactly at midday the voice became extinct, without any affection of the pulse, any sense of constriction about the throat, but only a sense of tightness and uneasiness in the epigastric region. She would go to bed at nine o'clock, and awake quite well, to go through the same process the succeeding day. Sometimes, however, there were accompanying febrile symptoms, head-ache, &c. but these were rare. She had no perspiration. Nevertheless these attacks diminished her strength, and caused considerable loss of flesh. She had been bled—had taken sulphate of quinine, and various other medicines, without the least effect. Of late years the duration of these attacks has varied from three to seven months every year. The attack over, she regains her embonpoint and strength, and appears as if she had never been unwell.

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13. *Intermittent Aphonia of thirty years standing.*—This is related by Dr. Ollivier, of Angers, in the same journal with the preceding case. Maria Louise Girou, midwife at the Hôtel Dieu of Angers, aged forty-four, (at the period when she came under observation, 1818,) of a nervous and sanguineous temperament, delicate constitution, had menstruated regularly from the age of fifteen to that of eighteen, when she had profuse menorrhagia, occasioned by some violent mental emotions. About this period she became affected for the

first time, and without any evident cause, with complete aphonia, which lasted several days. From this period the complaint came on at irregular intervals—sometimes several times in the month—sometimes with intervals of many months. She had once an immunity of a whole year. There was no apparent disturbance of the constitution at the periods of attack. They commenced with a sense of irritation in the throat, which gradually increased till the voice was totally lost, when the irritation always subsided. During the period of the attack, the patient felt a sense of oppression about the region of the heart, and of heat ascending in currents to the head. In all other respects she was well, and went about her avocations as usual.

From the age of eighteen to that of forty-four years, the attacks of aphonia have always presented the same phenomena; but latterly, since menstruation has ceased, the intervals between the accessions are longer. Various remedies, chiefly of the antispasmodic and tonic kind, had been employed, without making the slightest impression on the malady. At length blood-letting was tried—and scarcely had an ounce flowed from a vein when restoration of the voice took place. This remedy has invariably produced the same effect in every subsequent attack of aphonia. Leeches gave the same relief, by the time that an ounce or two of blood was abstracted. M. Ollivier himself was witness many times of this extraordinary efficacy of bleeding. The patient felt as if a load were removed from her heart whenever the blood flowed, and then her voice was restored.

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14. *Case of Sudden Death from Obstruction of the Larynx.*—Dr. Senn, of Geneva, examined, in 1826, the body of a man who died suddenly. This man had for a long time lost his voice—had been treated for laryngeal phthisis—been able to swallow only liquids—was incapable of supporting violent exercise, and finally had for two days complained of his throat. All the viscera were successively examined, and excepting venous congestion, and the blood being liquid, the consequence of asphyxia, all were found in a normal state, except the larynx, which presented the following peculiarities:—the glottis was healthy; there was a light œdema of the borders of the glottis and of the ligaments of the epiglottis; the mucous membrane was tumefied. The larynx having been opened behind, a tumour became visible, of the size of a filbert, white, hard, fibrous, fissured, pediculated, arising from the right ventricle, which it filled, and occupying almost the whole of the upper part of the larynx, so that on shutting the larynx, a very small crow quill could not be introduced without considerable effort. This tumour, which Dr. S. thinks syphilitic, was the cause of death. The slight tumefaction of the mucous membrane of the larynx being sufficient, in the state of the part, completely to close it to the passage of air.—*Journal des Progrès, Vol. XVII.*

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15. *General Melanosis.*—Professor Lobstein, of Strasburg, describes in the *Repertoire Générale d'Anatomie et de Physiologie Pathologiques, Tom. VII.* the following interesting case, in which the disposition to melanosis existed in many of the different textures of the body, and particularly in the skin. Madame S. B. aged fifty-four, had, for six years before her death, a black spot on the inside of the left leg, at its articulation with the thigh. Gradually the spot became a black wart, to remove which various attempts were made by means of ligatures and various caustics, but which, notwithstanding all the remedies resorted to, continued slowly to increase till in 1827 it attained the size of a hen's egg. It then softened, the skin over it was abraded, fungoid excrescences formed on its surface, a sanious matter was discharged, and around it arose many small hard tumours, some of them flesh-coloured, and others bluish, but all indolent and insensible. By little and little the disease spread on the leg and thigh; and on the upper and inner part of the latter a very prominent tumour was produced. The liver also became large, and a projection or bump could be felt on its convex surface. Towards the end of her life a great number of little tumours of the

same colour and hardness with the rest were discovered in the scalp, and one arose in the upper eyelid of the left eye, near its inner angle. Meanwhile the patient became more and more feeble and cachectic, without precisely having fever. The discharge from the principal tumour was fetid, and so great, that in less than an hour it soaked through twelve folds of cloth. Latterly the prostration of strength was such as to render the lady unable to stand. In the three last days of her life there was no pulsation to be felt in the wrists; the voice was lost; and death was preceded by a desire to vomit and eructations. She retained her faculties to the very last.

The original tumour rested on the ligamentous bands and periosteum of the parts forming the joint; it consisted of fungoid, reddish lumps, agglomerated, and separated from one another by fissures; and it had attained a size considerably greater than that of an egg. The tumours around it were like large warts, reddish-yellow in colour, and as hard as cartilage. They were so numerous, that on a piece of skin, measuring three inches by two inches and a half, Professor Lobstein counted sixty-eight, varying from a line to nine lines in diameter. On a portion of skin from the thigh, measuring six inches by two and a half, he found forty-three small medullary tumours, of a flesh-red or bluish colour, of the hardness of cartilage, and all filled with a black matter. They were situated in the true skin and cellular tissue, never penetrated the aponeurosis, and were not surrounded by any sign of inflammation. At the upper and inner part of the left thigh, near where the saphena joins the crural vein, there was a mass of six encephaloid tumours, the largest of which was two inches and a half long by eleven lines in breadth, and all of them were softened. The melanotic matter abounded in them all. The vessels behind this mass were not altered in appearance, except that the coats of the saphena vein were as thick as those of an artery. The lungs were crowded with little hard tumours as big as lentils, without their parenchymatous structure being diseased. The liver opposite the gall-bladder presented on its convex surface a tumour of the size of a small apricot, which contained a homogeneous matter as black as China ink, deposited in a soft friable tissue. The spleen contained two tumours, one of them eleven, the other seven lines in diameter, and consisting of mixed yellow, gray and black matter. The right kidney was healthy in structure, but presented at its upper extremity a tumour three inches and a half long, eight inches broad, and an inch and three-quarters in thickness, which at first appeared a semitransparent hydatid, but which proved to be a cyst divided into several cells, filled with a black pulpy mass, and having a free communication with the renal vein. The great veins of the pelvis were filled with a polypous blood adhering to their inner surface. When macerated several days, these concretions became fibrine, which in some parts presented a regular stratified appearance.

16. *Scirrhus of the Pylorus and Ulceration of the Stomach, without Pain on Pressure.*—This case is related by Mr. Waldron, of Bath, in a late Number of the *Midland Medical and Surgical Reporter*, and we are indebted for the following notice of it to the *Medico-Chirurgical Review*, for January last. The case is interesting in several respects, and especially as showing how violent a degree of inflammation and extensive disorganization may take place in the mucous membrane of the intestinal canal, without pain being experienced even on pressure. Mr. Waldron attempts to explain this absence of pain by the quantity of fat on the abdominal parietes, a perfectly gratuitous hypothesis, as is observed by Dr. Johnson, who says that he has "seen the same absence of pain on pressure where no such condition obtained," and the same has been observed by every one of any experience, who has taken the trouble to investigate the subject. The subject of this case was a commercial traveller of Bath, aged fifty, addicted to drinking spirits, who applied to Mr. Waldron, Dec. 2d, 1828, with much debility, loss of appetite, uneasiness at the pit of the stomach, and frequent vomiting. The face was sunk and sallow, the pulse extremely weak, the bowels very irregular.

Till within the preceding eight months he had enjoyed an uninterrupted state of good health. No fulness or tenderness was detected on examining the abdomen, and some purgative medicines were prescribed. These, however, failing to effect any benefit, Mr. Waldron inquired further, and discovered that the sickness generally occurred from an hour and a half to three hours after eating, and that the matters brought up were dark-coloured, grumous, and more than commonly offensive; the evacuations were imperfect and scanty, and for some length of time a copious and sound stool had not been voided. Calomel and hemlock, leeches, and saline aperients were now prescribed, but without any benefit, and on the 8th of January, being informed that some difficulty was experienced in administering the enema, Mr. Waldron examined the rectum himself, and by means of the stomach-pump, found that some obstruction did exist, though a quantity of hardened fæces were brought away. Shortly after this a small bougie was introduced with some difficulty, when the patient expressed himself *greatly relieved, and the sickness of the stomach quite subsided.* The bougie was gradually augmented in size, and a pill of three grains of calomel with eight of the pil. rhei comp. prescribed with surprising though transient good effect. The patient began to sink, became furiously insane, and died on the 10th of February, the sickness never having returned since the use of the bougie.

Sectio Cadaveris, forty-eight hours after death.—"I examined the body in the presence of Mr. G. Goldstone, surgeon, of this city. Considerable emaciation had taken place in the muscles of the extremities; on cutting through the parietes of the abdomen an unusual depth of adipose matter was found. In the abdomen the vessels of the small intestines appeared dark and congested with blood. I passed a ligature in two points above the cardiac extremity of the stomach, and having divided the part between the ligatures was proceeding to trace the stomach downwards to its pyloric extremity, when it broke, and extravasated its contents into the abdomen. I next separated the small and large intestines, following them downwards throughout their whole course. Upon laying open the stomach, the cardiac extremity appeared enlarged and thickened, and the pyloric was a complete mass of disease; at that part where a conoidal opening is formed by the termination of the stomach projecting into the duodenum, an enlargement the size of a large duck egg was found: the stomach above this enlargement was ulcerated and thickened, and appeared as a pulpy mass; at the enlargement, the calibre of the part appeared to be nearly obliterated, and below it, the duodenum was ulcerated and thickened for several inches, and exhibited the same appearance of pulpiness, and was so fragile as to break upon the sightest force being used. On cutting through the enlargement at the pyloric extremity of the stomach, the centre exhibited a scirrhous hardness; in one part, there was a dark discolouration, similar to what is seen in scirrhous enlargement of the breast, prior to its passing into the ulcerative stage; on cutting into it, a dark coloured sanies escaped, which was imbedded in a tubercular cyst. The rest of the viscera of the abdomen exhibited no morbid appearance, excepting the colon and rectum, which were in several parts so much contracted, as to reduce the calibre of the intestinal tube to the size of the smallest rectum bougie. In the sigmoid flexure of the colon, these contractions were very apparent, and the fæces were with considerable difficulty made to pass these points, by pressing the finger and thumb above, and propelling the fæces forward.

"When the colon and rectum were laid open, beginning above the left iliac region, the intestine appeared in many parts thickened and contracted; in other respects no morbid appearance was observed. In the head, the vessels of the brain appeared dark and congested with blood; the tunica arachnoidea was very much thickened, and had become dense and obscure; in different parts, especially on one side, deposits of coagulable lymph were observed; a larger quantity of fluid than what is common was found in the ventricles; in other respects, the brain exhibited no morbid appearances."

17. *Case of Ascending Paralysis.*—Charles L. æt. 35, robust; and in the military profession for fourteen years, during which he had served in the Russian and Spanish campaigns, and consequently been exposed to great fatigues and vicissitudes of climate. In June, 1826, he first perceived that his legs readily bent under him, and that he could not easily raise himself up from the sitting posture. In other respects he had no complaint. In about a fortnight after this he began to feel numbness in his feet, which gradually ascended towards the knee. But while the surface thus lost its sensibility, the muscles beneath became the seat of acute pain, which was much exasperated by pressure. He had been a month confined to bed in this state, with nearly loss of all power in the lower extremities, when he perceived a numbness invade his hands. The progress was exactly similar to that in the inferior members; and he was seen by the narrator on the 22d of September of the same year. He was now completely paralytic, excepting the tongue, the face, and the neck. These last became gradually affected. He had never complained of pain in his head, nor of any part of the spine; nor did the most rigid examination detect any physical lesion in this last region. His general health was good—his intellects perfect. He attributed his disease to rheumatism, contracted during his bivouacs in Spain. He made water voluntarily, and had a daily evacuation from the bowels. He slept and ate well. The skin was nearly of natural temperature, but quite insensible to pinching or pricking. Any pressure of the muscles, on the other hand, gave him great pain, and caused him to cry out.

Frictions of lytta and alcohol were assiduously employed along the spine—ammoniated liniments were applied to the limbs, and cinchona, with wine, was liberally exhibited internally. In the course of a fortnight the sensibility of the skin began to return and that of the muscles to diminish. The power of the muscles also gradually returned, but inversely to the way in which it had been lost—namely, from above downwards. He was never able, however, to raise himself up on his feet. This amelioration continued but for a very short time, and he was soon as bad as ever. Blisters along the spine were added to the former measures. On the 3d of November he became suddenly incommoded in his breathing—his pulse quickened—his countenance became anxious—he had cough—the intercostal muscles seemed scarcely to move. In this state he lingered till the 7th of the same month, when he expired without any struggle.

Dissection. The spinal canal was opened throughout its whole extent. There was very little blood in the venous sinuses. The dura mater in its natural state. The pia mater was sprinkled with calcareous depositions in the lumbar region, and was finely injected. The roots of the lumbar and sacral nerves, as also the great sciatic, were injected with black blood. The other nerves were very minutely examined; but nothing particular was observed. The spinal marrow was rather firmer than natural, and the same might be said of the medulla oblongata and brain. The lungs were filled with tuberculous matters, and there were some small abscesses. The heart was empty and flaccid. The whole of the abdominal viscera were sound. The muscles presented no appearance different from those of a person in health, except being more pale and flaccid.—*Med. Chirug. Rev. Jan.* 1830, *from La Clinique.*

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18. *Case of Disease of the Processus Dentatus.*—"A gentleman aged 22, of a scrofulous habit; in the early part of his life had suffered amputation on account of a disease of the knee, and afterwards was liable to pectoral complaints with hæmoptysis. In the beginning of the year 1828, he began to complain of pain and stiffness of the neck, referred chiefly to the left side of it, and much increased by the motion of the head. The pain sometimes extended into the larynx, and backwards towards the scapula. After considerable relief from repeated blistering, &c. the symptoms returned, accompanied by loss of appetite, frequent pulse and night perspirations; and soon after this he became affected with difficult deglutition, some dyspnœa and hoarseness. There was now also

severe fixed pain referred to the back of the head, and much increased by the motion of the parts; so that he was obliged to support his head with both his hands when he had occasion to make any change of his posture. He was next affected with paralysis of the tongue and the upper eyelid of the left side. On the 16th January, 1829, he was seized with paralysis of the left arm, and two days after the right was affected in the same manner. He had then great pain and difficulty in passing urine, with obstinacy of the bowels, which nothing could overcome. On the 29th, the lower extremities became paralytic, and he died on the 31st, having suffered greatly on the day on which he died, from difficult breathing.

"*Inspection.*—All the external parts of the neck, the pharynx, &c. were healthy, and no disease was discovered in any of the vertebræ in their external aspect. The brain and cerebellum were healthy, except some increase of vascularity. Within the foramen magnum and attached to the inner surface of the dura mater at its interior and lateral parts, there was a spongy tumour of a grayish-yellow colour, which, when cut into, presented a variegated structure, resembling fungus hæmatodes. The processus dentatus was rough and carious on its surface, and it was so much elongated as to project half an inch into the cavity of the cranium. It's ligaments also were partially destroyed so as evidently to allow it to encroach upon the area of the spinal canal, and to compress the cord. The spinal cord at the upper part was flattened, but not materially altered in its texture."—*Abercrombie on the Brain.*

19. *Paralysis of the Muscles of one side of the Face from disease of the Portio Dura.*—Mr. Abercrombie, in his work on the brain, makes the following very interesting observations on this affection; they merit the attention of the profession. We have seen very many cases of this complaint, the pathology of which is not generally understood, and have seen one case at least in which it was rendered permanent by mal-treatment. "The important practical application of the discoveries of Mr. Bell," says Mr. Abercrombie, "is, that there may be paralysis of the muscles of one side of the face, producing distortion of the mouth with inability to shut the eye-lids, without disease of the brain, and consequently without danger. This affection depends upon a disease limited to the portio dura of the seventh nerve, and may be produced by inflammation of the ear or the parotid gland, or tumours compressing the nerve on any part of its course. The most common example of it seems to originate in a kind of rheumatic inflammation produced by cold, especially by exposure to a current of cold air, as when a person has sat long, or has slept opposite to an open window, or has sat in a carriage with a cold wind blowing on one side of his head. It is to be treated chiefly by local remedies, as topical bleeding, blistering, and the application of warm water or steam. In this manner it is often speedily removed, but in some cases proves tedious, and does not go off entirely for several months. The affection is of course still more untractable, or even permanent, when it depends upon a permanent cause, such as tumours compressing the nerve, or destruction of a portion of the nerve by wounds or extensive suppurations. There is also a very formidable modification of it which depends upon disease of the temporal bone.

"The character by which these cases are distinguished from paralysis depending upon disease of the brain, consists chiefly in the sensibility of the parts remaining unimpaired. The loss of motion also is confined to the muscles of the face and eyelids, and does not affect those of the jaw. These peculiarities arise from the remarkable facts discovered by Mr. Bell, Mr. Shaw, Mr. Mayo, and others, that the portio dura of the seventh is a nerve of motion only, supplying the muscles of the face and the orbicularis of the eye, but not the muscles of the jaw; and that the sensibility of all these parts, and the motion of the muscles of the jaw are derived from the fifth, which, having a double origin, is a nerve both of sensation and motion. An important distinction, however, is to be kept in mind in regard to the paralysis of the eye-lids which occurs in these cases, namely, that it is the inability to shut the eye that arises from the affection of the portio dura of the seventh. The dropping of the upper eye-lid and inability to raise it, is a disease entirely of a different nature; it depends upon an affection of the third nerve, and consequently gives more reason to suspect disease within the head.

"When therefore we find paralysis and distortion of the face, with loss of sensation of the parts, we have reason to suspect disease within the head, the portio dura of the seventh and the fifth being both affected. But when we have the paralysis without diminution of sensation, the disease depends upon an affection of the portio dura alone, and may be entirely without danger. Such cases however are not to be treated lightly, but the cause of them ought to be carefully investigated; for if there be any reason to suspect that the affection depends upon disease of the temporal bone, it may come to be attended with danger by inflammatory action spreading inwards to the dura mater or brain. There is another modification also which requires to be watched with anxiety, namely, when the affection is accompanied with deafness; as this gives reason to believe that both portions of the seventh nerve are affected, and consequently to suspect an internal cause."

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20. *Organic Lesions produced by the Hydrocyanic Acid.*—M. Orfila, in his toxicology, gives an instance of inflammation of the mucous membrane of the stomach and intestines in an individual who had been destroyed by this acid; but the same appearance has never been observed in dogs, probably from the poison having induced death in them so rapidly, as not to allow time for the production of inflammatory action. In the autopsic examinations made by MM. Adelon, Marc, and Marjolin, of seven persons who had been destroyed by this poison, the same marks of inflammation, though in different degrees, were exhibited in every instance. Besides the inflammation of the mucous membrane of the stomach and intestines, the texture of the spleen was softened, and in some reduced to nearly a pultaceous mass; the hepatic veins engorged with fluid black blood, and the kidneys of a deep violet, engorged with blood, soft, and allowing the exterior membrane to be readily detached from its parenchyma. The heart and large arteries were empty, and of firm texture, while the large veins were filled with black fluid blood, which exhibited no where the least trace of coagulation. The mucous membrane of the larynx, trachea, and bronchia were of a deep red, which could not be effaced by washing, and the bronchia throughout were surrounded by a bloody frothy fluid. The membranes of the brain were injected, the sinuses of the dura mater engorged with black fluid blood, and the substance of the brain and spinal marrow somewhat softened, but otherwise natural in appearance. No part of the body exhaled the odour of bitter almonds, nor exhibited any signs of putrefaction, but in every instance there was considerable cadaveric rigidity. The mucous membrane of the bladder, pharynx, and œsophagus seemed natural and healthy.—*Archives Générales, July*, 1829.

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21. *Mental Derangement from Gastric Irritation.*—Cases of this description are not, we suspect, rare; the following, however, related by H. Worship, Esq. in the *London Medical Gazette* for December last, is not without interest. "Edmund ———, aged 15, but not yet arrived at puberty, of small stature, but regularly formed, with light-coloured hair, delicate and pale skin; and an active and intelligent mind, was put under my care for an affection of his eyes, which presented the following appearances:—There is in each eye a pencil of red vessels, running from the external and internal angle, and terminating at the margin of the cornea, which is perfectly transparent; the pupil is large and regular; the iris acts slowly and almost imperceptibly when a strong light is admitted to the eye, and the pupil becomes contracted only when the sight is fixed on any particular object; the conjunctiva of the lids inflamed, and there is lachrymation and confusion of vision when an object is regarded for any length of

time. The upper eyelid is large from the number and size of its vessels. He has been subject to similar attacks from time to time during the last four or five years, and has lately been under the care of a celebrated oculist, who has advised the application of leeches, and an occasional dose of calomel, to be followed up with senna and salts.

His mother informed me that he was not sound in his mind; and with respect to this point, I made out the following history:—About two years since he was the subject of scarlet fever, which ran rather high. He had passed nearly a week in convalescence from the attack, when he was seized with acute pain in the abdomen, followed by purging and vomiting, which continued for some hours. It was then his mind became affected; he screamed, and made such exertions, that he was with difficulty kept in his bed; he fancied he was going to be murdered, and pointed at the imaginary objects which were to destroy him. He would minutely detail many absurd stories, of which he had no memory when subsequently questioned. From this state he passed into one nearly resembling idiotism, and then gradually recovered. Although occasionally irritable, he has had no attack like the one I have just described till within a short time of my attendance, nor was this attack of so severe a character as its predecessors.

Disregarding for a time the affection of the eyes, and bearing in mind the history of the former illness, I was induced to look for the cause of the present relapse in a disorder of the stomach, or some other abdominal viscus. That such a disorder existed, and that the treatment I adopted for its removal acted beneficially on the brain, the following statement will fully prove.

Nov. 3d.—My patient complains of great pain and heat in the head, with confusion of ideas. His pulse is quick and full; respiration short, and principally carried on by the ribs. He sighs continually; his digestion is painful, and his appetite immoderate, for scarcely does half an hour elapse after eating a meal, which would satisfy two persons, when he again calls for food, and eats to a like excess. The tongue is covered with a white fur; the bowels are irregular; the epigastrium is full and hard, and painful on pressure. He was put on low diet, with lemonade for drink; leeches, followed by poultices, were applied to the pit of the stomach on the 3d, 4th, and 8th; the leeches amounted in all to 40. To the treatment just mentioned, my patient added the occasional use of a foot-bath.

Nov. 14th.—His recovery has been as rapid as I could have wished: at the time I am writing, his tongue is clean, his head clear; the pain in the epigastrium no longer exists, and the inflammation of the eyes has quite disappeared; so that, he says, his sight is as good as ever it was.

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22. *Hallucinations.*—M. Bland divides hallucinations into—1st, those which depend on the sensitive apparatus, as for example in icteric persons, who see objects of a yellow tinge—2d, those which arise from an affection of the brain, as where there occurs pathologically a functional condition, similar to that which in a normal state produces real perceptions: these hallucinations are observed in mania, in which the maniac perceives objects, which although having a real existence, are not presented to his external organ of vision—3d, those which depend upon lesion of an abdominal or thoracic viscus, &c.; such is the delirium which occurs in gastro-enteritis and pneumonia—4th, those which are produced by exaltation of the imagination, as ecstacy and violent passions. The hallucination of the sensations are, according to M. B. the easiest to cure. When those which depend on an affection of the brain are slight or recent, they yield easily to antispasmodics; but if they are violent, and if there be great cerebral lesion, they are the prelude to mania. The violence of those which are sympathetic is proportioned to the affection from whence they emanate. Those produced by exaltation of the imagination are to be cured by a moral treatment. —*Nouvelle Bibliothèque Medicale, Sept.* 1829.

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23. *Hallucination of Hearing.*—M. Bland relates in the *Nouvelle Bibliothèque*

Medicale for September last, a very curious case of this description. A girl aged 10, was in the fields not far from home, when she suddenly heard herself called in a strong, solemn voice, and the sound of other words which she could not understand. She ran home trembling and sought refuge with her mother, who supposing that some one of the neighbours had tried to frighten the child, endeavoured to encourage her, and afterwards went out of the house to reproach the unknown person for their imprudence; but she was soon recalled by the cries of her child, who heard again the same voice. Frightened herself at this occurrence, which she could not understand, she knew not what to do; she could not conceive how her child could hear sounds which she could not. The next day the child was in perfect health, but on the succeeding one she heard the same voice many times; this voice called her always distinctly by name, in a strong and very solemn tone. After being in this condition fifteen days, she was placed under the care of M. Bland, who found all the functions in a perfectly normal condition, except that of hearing. Ordered the child to take pills of extract of valerian, castor, flowers of zinc, and aqueous extract of opium, and in a few days she was perfectly well.

24. *Hallucination of Vision.*—This case is also related by M. Bland, in the same journal from which we have taken the preceding. The subject of it was a very nervous woman, who had enjoyed very good health until the age of fifty-six. At this period she was very much excited from seeing her husband in an epileptic fit, but soon recovered her usual health. A short time afterwards, however, she had some febrile symptoms, and was subsequently painfully affected in the following manner:—At night she awoke suddenly from sleep, and saw frightful objects, monsters of all sorts, spectres bearing coffins. In extreme agitation she arose quite bewildered, lighted her lamp, and then the spectres disappeared. During the day she remained quiet and undisturbed. These hallucinations continued during more than two months, presenting some variations. The health of the patient was much changed when she applied to M. Bland, who prescribed a decoction of antispasmodics, and this condition ceased.

25. *Hallucination of Touch and Hearing.*—A third case of hallucination is published by M. Bland, in the journal already cited, in which there was hallucination both of the touch and hearing. It occurred in a female, 35 years of age, very sensitive, very irritable, exceedingly nervous, subject to gouty rheumatic pains, who became violently angry on the evening of the 25th of July, 1828. At night she was agitated, and awoke suddenly from sleep. All at once she thought that she felt her right hand strongly clasped in the hand of some one, and heard near her ear a low voice; she arose from bed much frightened, uttered piercing cries, and a pain which she felt in the back of her right hand at the articulation of the third metacarpal bone with the first phalanges of the middle finger, where there was some redness and swelling, strengthened the patient in her illusion. She passed all the morning in extreme agitation, with uneasiness, anorexia, fever, &c. and when she applied to Dr. Bland, he had much difficulty in persuading her that the pain which she felt was only rheumatic gout, which she had so frequently experienced, and that the voice was an illusion. She, however, gradually became calm, and was restored to her usual health.

26. *Affection of the Brain from a Fall, with retention of urine.*—Dr. John Abercrombie in his valuable work on the diseases of the brain and spinal cord, relates the following interesting case. "A servant girl aged about twenty, fell backwards with a child in her arms, and received the full force of the fall upon the most prominent part of the occipital bone. She soon recovered from the immediate effects of the injury, but continued to have pain in the part; and after several months, was seized with paraplegia and retention of urine. She was now confined to bed for three or four months, after which she re-

covered the use of her limbs, in a tolerable degree, but the retention of urine continued, and she came to Edinburgh in the beginning of 1828, which was more than a year after the accident. The paraplegia was now nearly removed, but she had still retention of urine, requiring the constant use of the catheter. On the seat of the injury on the occipital bone, a round portion, the size of a crown piece was acutely tender, and very moderate pressure upon it produced complete insensibility, which continued a minute or two, and returned as often as the pressure was repeated. It had the appearance of syncope, but the pulse was not affected. In this state I saw her, along with Mr. Lizars, and it was agreed to make a free crucial incision through the part, and to keep the wound open by dressings so as to promote suppuration. In doing so the pericranium was found tender, and somewhat thickened, but the bone was sound. On the following day she passed her urine freely, and she continued free from complaint as long as the wound continued to discharge. It healed at the end of a fortnight, and the retention of urine returned immediately. The incision was now repeated with the same result as before, her urine being freely passed almost immediately. Various means were then employed to promote a more complete suppuration from the wound, but it healed after two or three weeks, and the retention returned as before, with considerable tenderness in the affected spot. A third incision was then made with the same effect as before, and various applications were made with the view of promoting exfoliation of bone, as in Sir E. Home's cases, but without success, and the wound again healed after three or four weeks. The fits of insensibility on pressure now returned, which had not returned after the former incisions, and along with them the retention of urine.

"Since that time repeated incisions have been made with similar results. The principal change in her situation now is, that she has got free of the fits of insensibility upon the spot being pressed; and the effect of the incisions has continued longer, as on several occasions she has remained free from the retention of urine for several weeks after the incisions were healed, and at one time enjoyed perfect health for three months."

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27. *Affection of the Brain with retention of urine, followed by Anasarca and Paralysis.*—The following case is related in the *London Medical and Surgical Journal* for November last. "E. G. aged eighteen, of a leucophlegmatic habit, of excellent general health, the digestive and uterine functions natural; complained of intense pain in the right temple, which arose without any evident cause. She was ordered purgatives, arteriotomy, and cold lotions to the head. These remedies had the best effects, but the next day the pain was violent in the other temple, and she earnestly requested the performance of arteriotomy; which again afforded immediate relief. In a few days she experienced a recurrence of pain in the occiput, for which cupping was successfully employed, and the bowels duly evacuated. All pain in the head was removed, but she could not evacuate the bladder. She remained in this condition for three months, and required the use of the catheter twice and thrice daily. Her appetite was natural, the uterine secretion healthy. The urine was clear, limpid, and considerably increased in quantity. She never experienced the slightest symptom of hysteria, prior or subsequent to the disease. She had no perspiration during her illness. When the vicissitudes of the weather were considerable, she often required the catheter earlier than the ordinary visit; and if not employed she experienced much pain from the distention of the bladder, which she successfully relieved by copious libations of common gin. On one occasion she had taken half a pint of that liquor, though the bladder was distended to an immense size, for it extended nearly to the epigastrium. The catheter was employed, and a large wash-hand basin full of urine drawn off. She frequently relieved her pain by the spirituous potation. Several medicines were exhibited, especially those recommended Sir Astley Cooper, in paralysis of the bladder, but all in vain. Blisters were applied to the sacrum, an open cathe

ter left in the bladder for hours daily, and all in vain. At length the pain in the temple returned, and the retention of urine ceased. The pain, however, continued so violently as to induce wandering and slight delirium, when the arteriotomy was again resorted to, and with perfect success, but the retention of urine returned. She became weary of confinement to her apartment, and in open defiance to advice, went out in a cold day to visit an acquaintance. Next day the abdomen was tumid, and evident sense of fluctuation was apparent, even after the use of the catheter. General anasarca now supervened, and the catheter was no longer necessary. By the usual diuretic and purgative treatment her dropsical symptoms disappeared, and she was restored to perfect health. Several practitioners witnessed the progress and treatment of this case. About six months after her recovery, the right arm became paralytic, which was ultimately restored by vesication on the neck, as near the origin of the brachial nerves as possible."

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28. *Softening of the Spinal Cord.*—"A gentleman, aged 42, in October 1827 began to be affected with pain in the lower part of the back, stretching round the abdomen, and frequently shooting into the groins. After a short time this was succeeded by coldness and numbness of his feet, which gradually extended upwards with diminished power of motion, until, after several weeks, it terminated in perfect loss of motion of both lower extremities, with retention of urine. There was pain in some parts of the affected limbs, and in others a painful sensation of cold. This perfect loss of power continued five or six weeks, when, after a great deal of treatment by cupping, blistering, &c. he recovered a slight degree of motion, but no power of the bladder. He then began to be affected with spasms of the muscles of the back and abdomen, with a very uneasy sensation of tightness across the abdomen, and at times across the lower part of the thorax. The spasms occasionally assumed the characters of opisthotonos, and at one time he had almost incessant hiccup, which continued in a most violent degree for several days. After the employment of various antispasmodics, this subsided under the use of musk. During the course of these symptoms, he frequently complained of pain in various parts of the spine, at first in the lower part, and afterwards higher up; and the feeling of numbness extended gradually upwards, till it reached nearly the upper part of the dorsal region, and was felt in a very considerable degree along the sides of the thorax.

"After this he became liable to feverish attacks at night, terminating in the morning by very profuse perspiration, but this was strictly confined to the parts which were not palsied, and there never was the smallest moisture on the lower extremities. He had, also in the upper extremities, a frequent feeling of intense heat, while the lower continued cold and benumbed. During this time a considerable, but very imperfect degree of motion continued in the lower extremities, but the bladder continued entirely paralytic.

"In April, 1828, he went to the country, and at this time he had such a degree of motion as to walk a little on a smooth garden walk, leaning on two persons, or supported by crutches. But soon after this he began to complain of pain in the head. It occurred in irregular paroxysms, and was often referred to a small defined spot, on various parts, especially behind the ear, and sometimes to the tip of the ear. This pain seemed to abate under the use of arsenic; but soon returned, and became more fixed and permanent, and the palsy of the limbs again increased. After an absence of about two months, he returned to town in the beginning of July. At this time the head-ache was severe, and the power of the limbs so much impaired, that he was entirely confined to bed. In a few days after his return, the right arm became paralytic, and his speech considerably impaired. After a day or two, these symptoms rather subsided, but in the following night he became comatose and died in the afternoon. There never was complete loss of sensation of the affected limbs; he had only complained of it occasionally at particular spots, and of a general feeling of numbness and coldness.

"*Inspection.*—There were some scales of bone attached loosely to the inner surface of the dura mater of the spinal cord. The whole cord was of a pale rose colour, and in a state of complete ramollissement through its whole extent, being in every part entirely diffluent. The medulla oblongata was tolerably healthy, except a slight degree of softening on its anterior part; and there was also a degree of softening on the tuber annulare, which seemed to involve the origin of the fifth nerve. Beyond this, the ramollissement became again more decided, extending along the crura cerebri and cerebelli, and considerably into the substance of the brain, at the part adjoining the crura. The brain, in other respects, was healthy, and there was no effusion in the ventricles.

"It is difficult to trace the precise nature and progress of the affection of the cord, when the disease advances in so gradual a manner as in this case, and terminates in disorganization so complete and extensive. In tracing the history of the analogous disease of the brain we found reason to believe, that it is originally an inflammatory affection of a low chronic character, seated in a small part of the cerebral substance; that it may continue for a considerable time in the state of simple inflammation, and then subside; or that it may terminate by a permanent change in the structure of the part, generally with some degree of induration. In this state we find it when the patient dies of another disease. When it is itself the fatal disease, it seems to be so by passing either into ramollissement, or into partial and unhealthy suppuration. It is probable that the same character of disease takes place in the spinal cord; and it is found, in the same manner, sometimes in a state of ramollissement, sometimes in the state of induration, and sometimes one part is found indurated and another softened. In a remarkable case communicated to Dr. Ollivier by Andral, the affection began with numbness of the forefinger of the left hand, which gradually extended over the hand and arm. After some time the other hand and arm became affected in the same manner, and, after a year, the lower extremities. All the limbs then became paralytic, with permanent contraction, but without loss of feeling. The legs were bent upon the thighs, and the thighs upon the abdomen, and the arms rigidly fixed across the thorax, with the points of the fingers pressed against the palms of the hands. If attempts were made to move the limbs from these positions, they were thrown into spasmodic contractions with much pain. The patient died in this state at the end of eighty days from the commencement of the disease. Along nearly the whole length of the cord, there was a central cavity full of a soft gray mucus. It was considered as arising from ramollissement of the gray central matter of the cord, and the parietes of the cavity were formed by the white matter in a healthy state. In a case by Ollivier, in which palsy took place in the same gradual manner, but affected only the lower extremities, the patient was confined to bed for seven years. His legs were drawn up upon his body, and were entirely motionless, but preserved their feeling. There was extensive ramollissement of the anterior pillars of the cord: and a very remarkable circumstance was, that the softening was greatest in the upper parts of the cord, the corpora pyramidalia, and several parts of the brain, and became less towards the lumbar portion. The intellectual faculties had been almost entirely obliterated, but the motion of his arms continued entire to the last. Such are the difficulties and obscurities of this interesting subject."—*Abercrombie on the Brain.*

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29. *Cause and Treatment of Stuttering.*—We extract the following observations on this subject from the fourth edition of the valuable *Elements of Physics*, by Dr. Arnott, a work that should be attentively studied by every medical student. "The most common case of stuttering," says Dr. A., "is not, as has been almost universally believed, where the individual has a difficulty in respect to some particular letter or articulation, by the disobedience of the parts

of the mouth which should form it to the will or power of association, but where the spasmodic interruption occurs altogether behind or beyond the mouth, *viz.* in the glottis, so as to affect all the articulations equally. To a person ignorant of anatomy, and therefore knowing not what or where the glottis is, it may be sufficient explanation to say, that it is the slit or narrow opening at the top of the windpipe, by which the air passes to and from the lungs, being situated just behind the root of the tongue. It is that which is felt to close suddenly in hiccup, arresting the ingress of air, and that which closes to prevent the egress of air from the chest of a person lifting a heavy weight, or making any straining exertion; it is that also, by the repeated shutting of which a person divides the sound in pronouncing several times, in distinct and rapid succession, any vowel, as o, o, o, o. Now the glottis during common speech need never be closed, and a stutterer is instantly cured, if by having his attention properly directed to it, he can keep it open. Had the edges or thin lips of the glottis been visible, like the external lips of the mouth, the nature of stuttering would not so long have remained a mystery, and the effort necessary to the cure would have forced itself upon the attention of the most careless observer: but because hidden, and professional men had not detected in how far they were concerned, and the patient himself had only a vague feeling of some difficulty, which, after straining, grimace, gesticulation, and sometimes almost general convulsion of the body, gave way, the uncertainty with respect to the subject has remained. Even many persons who by attention and much labour had overcome the defect in themselves, as Demosthenes did, have not been able to describe to others the nature of their efforts, so as to insure imitation: and the author doubts much whether the quacks who have succeeded in relieving many cases, but in many also have failed, or have given only temporary relief, really understood what precise end in the action of the organs their imperfect directions were accomplishing.

"Now a stutterer, understanding of anatomy only what is stated above, will comprehend what he is to aim at, by being farther told, that when any sound is continuing, as when he is humming a single note or a tune, the glottis is necessarily open, and therefore, that when he chooses to begin pronouncing or droning any simple sound as the *e* of the English word berry, (to do which at once no stutterer has difficulty,) he thereby opens the glottis, and renders the pronunciation of any other sound easy. If then, in speaking or reading, he joins his words together, nearly as a person joins them in singing, (and this may be done without its being at all noted as a peculiarity of speech, for many persons do it in their ordinary conversation,) the voice never stops, the glottis never closes, and there is of course no stutter. The author has given this lesson, with an example, to a person, who before would have required half an hour to read a page, but who afterwards read it almost as smoothly as was possible for any one to do; and who then, on transferring the lesson to the speech, by continued practice and attention, obtained the same facility with respect to it. There are many persons not accounted peculiar in their speech, who, in seeking words to express themselves, often rest between them on the simple sound of *e* mentioned above, saying, for instance, hesitatingly, "I e....... think e....... you may,"—the sound never ceasing until the end of the sentence, however long the person may require to pronounce it. Now a stutterer, who, to open his glottis at the beginning of a phrase, or to open it in the middle after any interruption, uses such a sound, would not even at first be more remarkable than a drawling speaker, and he would only require to drawl for a little while, until practice facilitated his command of the other sounds. Although producing the simple sound which we call the *e* of *berry*, or of the French word *fête*, is a means of opening the glottis, which by stutterers is found very generally to answer, there are many cases in which other means are more suitable, as the intelligent preceptor soon discovers. Were it possible to divide the nerves of the muscles which close the glottis, without at the same time destroying the faculty of producing voice, such an operation would be the most immediate and certain cure of stuttering; and the loss of the faculty of closing the glottis would be of no moment.

"The view given above of the nature of stuttering and its cure, explains the following facts, which to many persons have hitherto appeared extraordinary. Stutterers often can sing well, and without the least interruption—for the tune being continued, the glottis does not close. Many stutterers also can read poetry well, or any declamatory composition, in which the uninterrupted tone is almost as remarkable as in singing. The cause of stuttering being so simple as above described, one rule given and explained may, in certain cases, instantly cure the defect, however aggravated, as has been observed in not a few instances; and this explains also why an ignorant pretender may occasionally succeed in curing, by giving a rule of which he knows not the reason, and which he cannot modify to the peculiarities of other cases."

MATERIA MEDICA.

30. *On the Action of Stramonium.*—According to Dr. AMELUNG, the first effect produced by the internal administration of stramonium in small doses, is a remarkable dryness of the mouth and throat. The voice becomes a little hoarse; the head is afterwards more or less affected, according to the dose that has been taken; the intellectual faculties become a little obtuse; there is a lassitude and weakness of the limbs, though the patient does not experience any particular weakness; there is no disposition to sleep, nevertheless the stramonium produces agreeable dreams, like opium; in small doses, it does not affect the appetite: in larger doses it diminishes it; the salivary and urinary secretions are augmented; by this latter effect, the stramonium approaches in properties the digitalis purpurea; this analogy becomes stronger again by the sedative action that the stramonium exercises on the sanguineous circulation. In a small dose, the stramonium augments at first the activity, but its prolonged use diminishes the circulation; its effect is slower, but more certain, than that of the digitalis; it does not disagree with the stomach, and does not produce so prompt a loss of muscular power; finally its prolonged use does not produce so readily symptoms of poisoning as the digitalis. The great disposition to hæmorrhages which is observed in subjects poisoned by stramonium, the very prompt putrefaction of their bodies, indicate a powerful depressing action on the vital powers, and authorize the arranging this article with the digitalis and hydrocyanic acid, in the class of those which considerably diminish the oxygenation of the blood.—*Bull. des Sc. Med. June,* 1829, *from Hufeland's Journal, Nov.* 1828.

31. *Properties of the Hydrocyanic Syrup of the French Codex.* By M. ORFILA.—This syrup contains one part of the medicinal hydrocyanic acid, of specific gravity of 0.9 to nine parts of syrup. Two drachms of it in four ounces of water will kill a robust dog in fifteen to eighteen minutes, and the same quantity given to several adult persons, destroyed life in forty minutes. This syrup in a short time undergoes the same alterations as the pure acid, first becoming of a yellow colour, then brown, and finally blackish; whereas, if a syrup be made, containing only one-thirtieth of the acid, it undergoes alterations much more slowly, and retains its colour at the end of ten months.—*Archives Générales, July,* 1829.

32. *On Vegeto-Alkaline Poisons, and the Neutralization of their Power.*—In a memoir read by M. DONNE to the Academy of Sciences, he states, that morphia, brucia, strychnia, &c. combine with chlorine, iodine, and bromine, to form distinct compounds. These are true chlorides, iodides, and bromides, and may be decomposed by the acids, and the vegeto-alkalies separated. It appears also

that these compounds are innocuous in comparison with their bases, and that the compounds of strychnia, when given in doses of two and a half grains, produced no effects on a dog, whilst half a grain of pure strychnia killed a dog of much larger size.

Experiments were then made to ascertain the power of chlorine, iodine, and bromine, as remedies against the poisonous properties of the substances mentioned; and it was found, that if any of these substances were injected into the stomach after strychnia, and in such period of time as had not allowed of sufficient absorption of the latter to produce death, then harm was prevented. In seven experiments of this kind, where doses of one and two grains of veratria had been given, the animals were saved from death by administering tincture of iodine. Once death took place when the antidote was given eight or ten minutes after the poison; and in another case the tincture of bromine given immediately after the administration of a grain of strychnia, failed to save the animal.

When the innocuous compounds of strychnia were decomposed by sulphuric acid, and the sulphate formed given to a dog, it killed him in less than an hour. Most of these compounds crystallize regularly, and have particular characters. They are all decomposed by acid.—*Brande's Quarterly Journal, Jan.* 1830, *from Bull. Univ.* c. xviii.

33. *Medicinal properties of the Cainça.*—In our second volume, p. 431, we announced the introduction of this plant into the materia medica, by Von Langsdorf. This remedy is now attracting some attention in Europe, and MM. Pelletier and Caventou have recently presented a report in relation to it, to the Royal Academy of Medicine. This medicine is derived from the *Chiococca anguifuga.* The bark of the root is represented as very uncertain in its effects; but the watery extract, on the contrary, is very constant in its operation, in doses of from twelve to twenty grains. It is, however, rather slow in producing its effects, and requires, sometimes, to be given in larger doses, so as to make a decided impression, which may then be kept up by smaller quantities frequently repeated. The caïncic acid is still more certain, and in smaller portions, care being taken not to give it when the stomach is stimulated by other medicines. Administered with these precautions, it is an efficient diuretic and purgative, and has already been employed with success in a considerable number of cases. In dropsy, it is asserted to be preferable to any other medicine hitherto discovered; not because it is more energetic, but because it is not attended with so much inconvenience. It is bitter and tonic, without being irritating; it acts gently and gradually, giving to the organs a mode of action opposed to that which constitutes the disease. It is difficult of solution in the stomach, and seems to act chiefly on the great intestine. Taken along with the food, it does not impede digestion. According to an analysis by M. de Saten, the constituent principles of the root of the caïnca are emetine, caoutchouc, gallic acid, fecula, and a little wax.—*Rev. Med. Jan.* 1830, *and Journ. Hebdom.*

34. *One hundred and sixty grains of Camphor taken at a Dose.*—A man, aged 74, residing at Breslau, having taken by mistake four ounces of camphorated spirits, which had been ordered as a liniment, soon became affected with the following symptoms:—burning heat of skin; frequent, full, and hard pulse; brilliancy of the eyes; redness of the face; heaviness of the head; anxiety; agitation; violent sense of heat in the stomach—then intense head-ache, giddiness, indistinctness of sight, and ocular hallucinations. The patient only complained of the heat, which he said was intolerable. The camphorated spirits of the Prussian pharmacopœia contains forty grains to the ounce, so that he had taken one hundred and sixty grains at once. Some spoonfuls of almond emulsion were given him at first, and the heat of stomach diminished after a few hours, but the symptoms continued. Two spoonfuls of a mixture, consisting of equal parts of

vinegar and thick mucilage. He was calmer during the night—his head was clearer, and the anxiety diminished; copious sweating came on, followed by sleep, after which he became much better. The pulse, however, continued full and frequent, and the voiding of the urine difficult. A light infusion of digitalis, with acetate of potass, was now given, and under this treatment the patient recovered in a few days.—*London Medical and Surgical Journal, March,* 1830, *from Rust's Magazine.*

PRACTICE OF MEDICINE.

35. *Tartar Emetic in large doses.*—We learn from *La Clinique* for December last, that M. Laennec, who was the first to employ tartar emetic in large doses, for the cure of articular rheumatism, abandoned this practice some time before his death, not having derived from it the advantages that he at first supposed he had.

36. *Otorrhea in Children.*—Dr. Amelung states in a communication in *Graefe and Walther's Journal, B. XII.* that he has employed with great success in this disease, especially when the discharge is fœtid, an injection of a weak solution of corrosive sublimate.

37. *Oily Embrocations to the Abdomen as a Remedy for Ascites.*—Dr. Zavagli, an Italian physician, in a work he has published on this subject, relates many cases of ascites which were cured by oleaginous embrocations to the abdomen, after bleeding, squills, digitalis, calomel, and drastic purgatives had been administered without advantage.—*Bull. des Sc. Med. July,* 1829.

38. *On the Use of Stramonium in Mental Alienation, and some other diseases.*—Dr. Amelung, in a communication in *Hufeland's Journal* for November, 1828, states that he has employed the stramonium in mental alienation, and some other diseases with surprising effect. He prescribes this medicine in the form of tincture which he prepares by digesting an ounce of the seeds in three ounces of alcohol. The dose for the deranged is ten or fifteen to twenty drops, two to four times a day; he has even given as much as thirty-six drops. In other diseases, the dose is one-half that required in cases of mania. A deranged person who will bear thirty drops four times a day, during the paroxysm, without any ill effects, experiences during his lucid interval from this dose, decided symptoms of poisoning.

The cases of derangement in which this remedy is more particularly useful, according to Dr. A. are those of febrile mania, but it is contra-indicated when there is plethora, or a decided inflammatory diathesis. These must be first removed by bleeding, cold applications and affusions to the head, and by the internal use of large doses of nitre, the tartar emetic, or digitalis. It is necessary in order to obtain a permanent effect from the stramonium, to continue its use for some time, and to augment gradually the dose. If vertigo and weakness of sight are produced, it is necessary to suspend its use, or better, to lessen the dose.

In periodical mania, Dr. A. says that the stramonium is one of the most efficacious means to abridge the attack and diminish its violence. Its prolonged use will also prevent a relapse.

In obstinate epilepsy, Dr. A. asserts that the stramonium is the surest remedy to shorten the paroxysms, and to lessen their frequency. He has never, however, effected a radical cure with it. He has also observed good effects from this remedy in some cases of convulsions, and of spasmodic cough, especially after measles, in a case of catalepsy, and in cramps of the calf of the legs, to which pregnant women are oftentimes subject, especially at night. He has also found it useful in chronic rheumatism, as a palliative, but it will not effect a cure when the disease is inveterate.

Dr. Hufeland in a note, states that the use of the stramonium requires great caution, he says that it is one of the most active narcotics, and ten drops of the tincture of the seeds can produce very serious narcotism.—*Bulletin des Sciences Médicales, June,* 1829.

39. *On the Employment of Iodine in Lymphatic Tumours.*—M. Bayle has published in the *Revue Médicale* for March, 1829, twenty-five cases of white tumours, treated with iodine, some of them by himself, and the rest by other practitioners. In all these cases the patients were of a lymphatic constitution, and exhibited various symptoms of scrofula. Under the influence of the preparations of iodine, the general health of all the patients improved, in a very remarkable manner, with one exception, a patient who was in articulo mortis, almost when placed under the use of the remedy. Of the twenty-five patients, twenty-four were affected with lymphatic tumours of the joints; one had only some lymphatic scabs, incontinence of urine during the night, and some other scrofulous symptoms. In eight the tumours were situated in the knee, six in the foot, three in the hip, two in the elbow; in the five others they occupied one or more articulations, and were accompanied with other symptoms of scrofula, as ophthalmia, albugo, discharges, &c. The treatment consisted in the employment of iodine in different forms. To all the tincture was given internally in various doses; some took only twenty-five drops daily, others one hundred. In eight of the cases the ointment of the tincture of iodine or ioduret of potash was used at the same time. Manson employed purgatives in most of the cases treated by him. The following are the results of the cases:—Cured fifteen, benefited six, not cured four—total twenty-five. The number of cases collected by M. Bayle are not sufficient to determine positively the cases in which the iodine ought to succeed, or those in which it promises no advantage. The cases cured were those in which the tumours were neither very voluminous, nor open in many places, with atrophy of the limbs, or without general emaciation. A much greater number of facts are indeed necessary to establish positively the principles of the treatment of these tumours by the preparations of iodine, and it is especially necessary that physicians should report their unsuccessful, as well as successful cases, otherwise we must be led to adopt too favourable an opinion of the value of the remedy.

40. *Treatment of Hooping Cough.*—Dr Kahleiss, who published in 1827, in *Horn's Archives,* a memoir on the efficacy of a mixture of belladonna, ipecacuanha, and sulphur in the treatment of pertussis, and who had employed it with the greatest success in one hundred cases of this disease, has inserted in *Hufeland's Journal,* for February, 1829, another memoir on this subject, in which he reports a great number of cases observed since, and which confirm his first results. The treatment of Dr. K. consists in the use of the following formulæ. ℞. Pulv. rad. belladon. gr. iv.; pulv. Doveri, gr. x.; lac. sulph. ℈iv.; sacchar. alb. pulv. ʒij. M. div. in chart xx. A child of two years to take one powder every three hours. Between each dose a tea-spoonful of the following to be given:—℞. Aq. chamomile, ℥j.; syrup. simp. ʒij.; acid. pruss. Vauquelin, gtt. xij. The proportion of the articles in these prescriptions ought to be increased or diminished according to the age and temperament of the child. The author says that sometimes the effects of these remedies do not manifest themselves for five or six days; but then they become very evident, and generally in from eight to twelve days at furthest the cure is complete. In some cases, after the employment of these remedies for two or three days a red efflorescence of the skin appears, and a greater or less considerable dilatation of the pupils. In this case the treatment must be suspended for twenty-four or thirty-six hours, and the proportion of belladonna diminished.—*Archives Générales. Nov.* 1829

41. *Partial Palsy cured by Strychnia applied Locally.*—Two cases of partial paralysis have been successfully treated by Dr. Auchincloss with strychnia applied to the denuded cuticle. The first was a man aged fifty-six, an habitual drunkard, admitted into the Glasgow Royal Infirmary on account of a varicose ulcer of the right leg. Ten days previously he suddenly lost the power of the left forearm and hand. The sensation of the parts remained perfect, but he was unable to take hold of any thing, or to extend the wrist and finger joints. Had no head-ache. Being costive, his bowels were freely opened. A blister was then applied to the back of the forearm, and one-eighth of a grain of strychnia sprinkled over the vesicated surface. On each successive day the application was increased, by adding the original quantity to that of the preceding day, till it amounted to one grain, after which one-fourth of a grain, instead of one-eighth, was to be added. From the second week, he felt the parts to improve in power daily, with occasional sensation of prickling along the forearm and fingers. No obvious constitutional effect ensued. He was dismissed cured five weeks from the commencement of the treatment.

In the case of another man admitted in August, with paralysis of flexor muscles, and diminished sensation of the right leg from knee downwards, a similar practice was pursued, with the same good effect. He was dismissed cured, having been under treatment during six weeks.

At *La Pitié* Dr. Bally is in the habit of treating cases of partial palsy in the above way, and is said to be very successful. In some cases he has made trial of the medicine internally without benefit.—*Glasgow Medical Journal, May,* 1829.

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42. *Treatment of Persons Poisoned by Hydrocyanic Acid.* By M. Orfila.—In our last number we briefly noticed the treatment recommended by M. Orfila, in cases of poisoning with hydrocyanic acid, and now give further details from the *Archives Générales*, for July last. Neither liquid ammonia, oil of turpentine, nor the infusion of coffee, administered even at the same time with the acid, seem to controul in the least degree its deleterious effects. Indeed science has not as yet discovered any substance capable of acting on this poison in the stomach, so as to destroy its baneful properties, and it is only by obviating the effects produced on the system, that we can be of any service in these alarming cases. The most efficient means of this sort that we possess are, ammoniacal vapour, chlorine gas, affusions of cold water, and bleeding.

Ammoniacal vapour.—Causing the person to inspire ammonia, diluted with twelve parts of water, is considered a good means of reviving the sunken powers of the nervous system, and will overcome in many instances the ill effects of this acid, if resorted to early; at the same time it might produce serious evils if it were employed undiluted, by inflaming the internal surface of the respiratory organ. M. Orfila made many experiments on dogs with this method, and found that when it was employed early, and the quantity of the acid was not so great as to kill in a very short time, it in many instances prevented the fatal effects where the poison would have inevitably destroyed life, had nothing been done; and in others, it prolonged the term of existence considerably.

Chlorine vapour.—M. Orfila considers the inspiration of chlorine, diluted with four parts of water, a more efficacious means of obviating the poisonous effects of hydrocyanic acid, than either the ammoniacal gas or the cold affusions. By means of it he succeeded in recovering dogs that had taken a sufficient quantity of the acid to destroy them in fifteen or eighteen minutes, provided it was employed within four or five minutes after the ingestion of the poison.

Affusions of cold water.—The affusion of cold water on the head, course of the spine, and even on other parts of the body, M. Orfila admits to be an excellent means to be employed in these cases. In eight experiments with this remedy made on dogs, three were recovered that had taken sufficient acid to have killed them in a few minutes, and in the remaining five, life was greatly prolonged.

Bleeding.—M. Orfila believes that blood-letting may be useful in these cases by diminishing the cerebral congestion, but that it is not a sufficient means of itself to overcome the poisoning: at least he has never succeeded by copious bleedings alone in causing the untoward symptoms to disappear.

Having thus examined successively the different remedies that have been offered to obviate the poisonous effects of hydrocyanic acid, M. Orfila indicates in a few words the order of proceeding that it is proper to institute in these cases. First, to give immediately an emetic or purgative, if too long a time has not elapsed since the acid had been taken; but especially to be assiduous in the application to the nostrils of a flask containing the chlorine or ammonia diluted, desisting now and then to give the patient short intervals of repose. At the same time cold affusions to the head and spine are to be employed, bladders filled with ice to be placed on the head, blood to be taken from the arm or leeches applied behind the ears, and demulcent drinks given from time to time. By these means the evil effects will be usually averted, if too long a time has not elapsed since the ingestion of the poison.

43. *Sulphate of Salicine a substitute for Quinine in the Treatment of Intermittent Fevers.*—M. Devilliers communicated to the Royal Academy of Medicine, at their meeting, Dec. 1st, 1829, a letter from Dr. Gerardin, in which the latter announces that he has substituted the sulphate of salicine for the sulphate of quinine in the treatment of intermittent fevers, with success. Two cases related in this letter show the efficacy of this remedy extracted from the willow by M. Leroux, pharmaceutist at Vitry-le-Françaisc. Nearly two years ago, M. Buchner in Germany, and Dr. Rigatelli in Italy, obtained this substance, and employed this remedy in intermittent fevers.—*Archives Générales, Dec.* 1829.

A case of intermittent fever successfully treated at the Hôtel Dieu of Paris, by M. Bally, with the salicine, prepared by M. Leroux, is related in *La Clinique*, for January, 1830.

OPHTHALMOLOGY.

44. *Intermittent Ophthalmia returning every seventh day.*—This interesting case is related by Dr. Hueter of Marburgh in *Graefe und Walther's Journal.* C. M. ætat. 34, a labourer in a mill, subject to asthma, had, during the winter 1826 and 1827, been frequently attacked with ophthalmia, first of the right, then of both eyes. This affection gradually subsided; but about three months afterwards, the right eye, in which the inflammation had been most violent, was on every Friday affected in the following manner. At two o'clock in the morning, the patient was suddenly roused from his sleep by a violent pain in the right eye, which at the same time became filled with tears, injected, and though it was not in the least swelled, caused a sensation of fulness as if it would burst; he could not bear the light, and felt as if there was sand between the conjunctiva and eye-lids. These symptoms continued during the whole day till the evening, when they subsided, with a great discharge of tears from both eyes. On the following day both eyes were perfectly well. During rainy weather, all the symptoms were much less violent than during bright sun-shine. The intermittent ophthalmia regularly continued till the spring of 1828, with this difference only, that during the winter time, the attack began on Thursday night, and lasted only till Friday morning. On the 8th of April, 1828, the patient was, in consequence of a mechanical injury, affected with violent iritis of the left eye; it lasted for about seven weeks, during which time the right eye remained free from the attacks of intermittent ophthalmia. On Friday, the 23d of May, however, the latter returned, though not so violent as before. On the 27th of May, the iritis of the left eye having then almost entirely subsided, a sensation of violent burning and itching suddenly arose in the left eye, with great pain

over the eyebrow; these symptoms terminated in a great discharge of tears, after which the eye was perfectly well. On the 30th of May the intermittent ophthalmia again returned, but was much less violent than before; from this period the patient remained free from the affection, and up to the beginning of 1829, had, with the exception of one very slight attack of intermittent ophthalmia, been perfectly well.

45. *Amaurosis completely cured by the Extraction of a Carious Tooth.*—Dr. Galenzowski, of Wilna, relates this case in *Graefe und Walther's Journal.* A man aged thirty-two, of vigorous constitution, but subject to rheumatism, was, in October, 1825, suddenly affected with violent shooting pain in the left upper jaw and eye, which continued for a few days, and then gradually subsided, but afterwards periodically returned. The patient did not take any notice of it until the pain became almost intolerable, and he observed that the sight of the left eye was completely gone. He applied to a medical practitioner, but finding no relief from his remedies, left the affection to itself. About eight months after its commencement, a small tumour formed on the left cheek, and terminated in an abscess between the conjunctiva and lower eyelid of the affected eye; the quantity of purulent matter discharged from it amounted to several ounces. After this event the pain became much less; the blindness, however, continued, as before. The purulent discharge continued, and periodically increased, during about six months; after which time the pain in the eye became so violent as to induce the patient to apply to a practitioner at Wilna, with the determination of having the eye removed, rather than continue to suffer such excruciating pain. On examining the eye, Dr. Galenzowski found the pupil dilated, and perfectly torpid, and sight so completely lost, that darkness and the brightest light could not be distinguished. There was no organic disease of the eye, the muscles of which appeared to act regularly; the purulent discharge continued; the pains in the eye were not so very violent as a few days before. On examining the mouth, a molar tooth was found to be carious to a great extent, and moreover to contain in one of its roots a small piece of wood, by which a constant irritation appeared to have been kept up, which had eventually terminated in a perforation of the antrum, into which a probe could be made to pass from the cavity of the tooth. After the extraction of the latter, no discharge of matter ensued; but sight was restored in such a rapid manner, that the patient, after nine days' adequate treatment, by gargarisms, &c. was able to return to his native country.

46. *Cancer—Extirpation of the Eyeball.* By John Couper, M. D. Surgeon to the Glasgow Royal Infirmary.—A man, aged 50, was admitted into the infirmary, February 9th, 1829, with a tumour at the outer canthus of the right eye, of a cartilaginous hardness, and adhering pretty firmly to the bony margin of the orbit. It is the seat of lancinating pain, which frequently shoots upwards along the forehead. In the centre of the tumour is an irregular ulcerated opening, which discharges a quantity of curdy pus. No denuded bone is felt with the probe. The integuments around the sore have a dull lived hue, and the eyelids can be separated only to a small extent, showing a white, opaque, rough surface.

The affection commenced five years ago, in the form of a pustule, at the outer angle of the eye, which broke, and formed a small irritable sore. This has slowly extended, so as to encroach on the eyeball, which has gradually shrunk. Vision of this eye has been lost for the last twelve months. General health good, with the exception of acidity of stomach.

The tumour, the diseased portion of the eyelids, and the whole of the eyeball, were extirpated. A strong hook being passed through the globe of the eye, its muscular and other attachments were divided with an ordinary small scalpel, excepting the optic nerve, which was cut with a pair of curved scissors. There was no bleeding, but the operation appeared to occasion most excruciating pain, which did not abate till after the exhibition of a large anodyne. In four days, healthy pus was secreted, and at the end of a month he was dismissed with the wound completely cicatrized. He has since shown himself, as directed, at the hospital several times, and continues in perfect health.—*Glasgow Medical Journal, Aug.* 1829.

47. *Pterygium cured by Purgatives.*—A man aged twenty-nine, presented himself, November 27th, 1829, at the Clinique of Professor Rust, in Berlin. He complained of pain and lachrymation of his left eye; and on examination, the caruncle was observed to be very red, as were the free borders of both eyelids; and from the external angle of the eye, there was a triangular red space, the base of which was at the angle, and the summit at the cornea.

He ordered the patient a purgative of calomel and rhubarb, which was repeated a number of times, and by the 2d of December, the pterygium had entirely disappeared.

M. Rust disapproves of any operation at the commencement of pterygium, because, he says, the divided vessels always reunite, which produces a relapse. He disapproves particularly of the operation of passing a thread under the diseased part and excising it. He considers a derangement in the abdominal circulation as the most common cause of this disease; and that it is therefore necessary to address remedies to the intestinal canal, with the double view of restoring its functions, and of effecting a derivation. He uses as the only local application an astringent, and he considers Goulard's water the best.—*La Clinique, Dec.* 1820.

SURGERY.

48. *Case of Carotid Aneurism in which the Artery was taken up above the Tumour.*—In our last Number, we published a case in which the operation of Brasdor for the cure of aneurism was successfully performed by our distinguished coadjutor Professor Mott: and we find from the January number of the *Medico-Chirurgical Review* that it has likewise been successfully achieved by A. Montgomery, Esq. surgeon in charge of the Civil Government Hospital at Mauritius. The subject of this latter case, a free black, aged about 30, tall, of spare habit, and rather given to intemperance, was admitted into the Hospital, February 20th, 1829, with an aneurismal tumour the size of a pullet's egg, situated immediately above the sternal portion of the left clavicle, and so close to that bone, that it seemed to emerge from behind it, or rather from within the cavity of the chest; which rendered the taking up of the common carotid artery below the aneurism absolutely impracticable.

The poor man had an almost constant tickling cough, with severe pain of the trachea; copious frothy mucous expectoration; great anxiety of countenance; hoarseness of voice; disturbed sleep; and was rather emaciated from constant watching.

The account he gave of his case was, that he caught cold by sleeping exposed in the night air about a fortnight prior to his admission into hospital, at which period he first noticed the tumour. As there was considerable derangement of the digestive organs, the requisite cathartic medicines were given to restore their functions, and expectorants and anodynes for the cough and general irritation.

21st. Has head-ache with severe fixed pain of the left temple; considerable fever; pulse 76, tense, and full, but irregular; the tumour increasing and pulsating strongly; has been three times copiously purged. V. S. ad ℥x. mist. salinæ simp. ℥j, cum tart. ant. gr. ¼, 3tiis horis. Vespere. The bleeding produced tendency to fainting, and has relieved the head-ache and fever, but the pain of temple and other symptoms continue. From this period the tumour went on increasing rapidly until 9th of March, when it had acquired an alarming size, the base occupying the space of two-thirds of the sternal portion of the clavicle, and ascending nearly four inches upwards to the angle of the jaw, so that the volume of the tumour limited exceedingly the space for taking up the artery above it—the attempting of which I was induced to undertake from having read Mr. Wardrop's successful case in the 9th volume of the Lancet, folios 479 to 485. Seeing that no time was to be lost, as the tumour might soon burst, or the patient be suffocated by its pressure on the trachea, and that its rapidly increasing size would soon so far diminish the space for operating as to render an operation impossible, I requested a consultation of the principal medical officers of Port Louis, as well French as English, who all unanimously concurred with me in opinion that the taking up of the artery, ultra tumorem, was an adviseable measure. I immediately commenced the operation in the presence of numerous medical spectators, aided by my friends Dr. Ingham, Surgeon 29th Regiment, and Dr. Shanks, Assist. Surgeon, 82nd Regiment, and Act. Chief of the Civil Medical Department. It may be observed here, that I was badly supplied with instruments, the want of which was however compensated by my able assistants. The operation was performed in a similar manner to that described by Mr. Wardrop, and consisted in making an incision of an inch and a quarter long through the integuments and platysma myoides muscle, by which the inner edge of the sterno cleido mastoideus was brought into view, greatly thrown inward and forward out of its natural position. This being drawn aside by a retractor, the incision was continued on its inner side, in the direction of the carotid artery, with every possible caution to avoid the superficial veins, one of which, of considerable size, crossed the neck, limiting very much my space for operating. The after part of the operation was attempted with a silver knife, as directed by Mr. Wardrop, but finding that instrument too clumsy, and depending on the steadiness of my hand, I removed the cellular substance, and exposed the sheath of the vessels, by dissecting with the forceps and scalpel, occasionally using the handle of the latter, when I found it necessary. This dissection exposed the descendens noni running on the front of the sheath of the vessels, the bifurcation of the artery, the external jugular vein at the upper angle of the incision, and a vein the size of a large crow-quill crossing the artery at the lower angle, and immediately above the omo-hyoideus muscle, which limited the space for taking up the artery to little more than half an inch. The sheath of the vessel was now slit open, when the artery, vein, and par vagum nerve, were seen in their natural situations.

The patient who had been very restless during the whole of the operation, suddenly raised himself up, so that I was compelled to seek again for the sheath, and being unable to find the first opening, I was obliged to make a second one. An attempt was now made to pass a rude, crooked aneurismal needle armed with a double ligature around the artery, in which I was foiled by the restless state of the patient. A second attempt proved more successful, as it passed with facility. On the ligature being laid hold of, the needle was withdrawn and on one ligature being secured the other was removed and the wound brought in contact by a simple suture and strap of adhesive plaster. The patient being now faint, a little wine and water was given and he was put to bed. It is remarkable that scarcely a drop of blood was lost during the operation, (which was performed in about 25 minutes,) except what escaped from the vessels of the integuments and platysma myoides, which did not exceed a tea-spoonful.

March 10th. The patient suffered very much from dyspnœa, cough, considerable and increased frothy mucous expectoration, and difficult deglutition for several hours after the operation, but which symptoms are now much abated. Pain of temple entirely gone; slept none in the night, for which he cannot account; pulse 80, soft and full; tongue white, belly slow, the pulsation of tumour less distinct, and he feels in every respect much relieved. Ol. Ricini, ℥j. Mist. Mucil. pro tusse. Vespere, well purged; Haust. Tinct. Opii, gtt. xxv.

March 11th. Passed a tolerably good night; has less cough and irritation of the trachea; suffers but little from the wound, or tumour, in which there is still pulsation, but less distinct than prior to the operation; complains of fixed pain of left scapula; pulse at the wrist 88, soft, tolerably full and irregularly intermittent; skin natural; but little thirst. Mist. Salinæ Simp. ℥j. Tr. Digitalis, gtt. viij. 3tiis horis. Potus Lemonade. Vespere, continues to go on well—pulse 72, no disposition to sleep. Haust. Tr. Opii, gtt. xxx.

March 12th. Passed a good night; tumour much decreased in size; and says that the pulsation has entirely subsided, neither is it to be felt. Complains chiefly of slight difficulty of deglutition, (but less so than at any period subsequent to the operation,) with a fulness at the epigastrium and flatulent eructation. Voice more clear and distinct; pulse 78, soft and tolerably full, but still intermitting; no motion of bowels. Haust. cathart.; continue mixture and potus.

March 13th. Has had but one scanty stool; slept none until an anodyne was given at midnight, after which he slept well till five o'clock. Pulse 80, soft, tolerably full, and intermitting at longer intervals. The dressings being removed the wound presented no appearance of union.

14th. The aneurismal tumour is reduced to one-half its original size, and does not pulsate when the patient is sitting up in bed. In the recumbent posture, however, an indistinct pulsation becomes perceptible. The patient is not sensible of any pulsatory movement in the tumour, but the wound has been painful and caused a restless night. Bitter tonic mixt. ℥j. thrice a day; pil. hyd. gr. v. h. s.

March 18th. Tumour continuing to decrease; distinct pulsation perceptible at a small point on the humoral edge of the aneurism, indicative of approaching rupture of the sac.

20th. Goes on well. In the evening slight hæmorrhage from the wound, which, excepting where the ligature comes out, is entirely healed. Pulse much excited; general agitation and dread of approaching death. Pulsation at the point mentioned on 18th more distinct, but no where else over the tumour. Haust. ex tinct. digital. p. gtt. xx. Tt. camph. c. gtt. xl.

21st. An indifferent night; no return of hæmorrhage; pulsation at the point specified still distinct; pulse irregularly intermitting; belly confined. Ol. ricini, ℥j.

22d. Belly relieved; considerable return of hæmorrhage at half past 10 o'clock last night, followed by chills and total cessation of pulsation at the point alluded to, but which has returned since 5 o'clock this morning; pulse irregularly intermitting. At 9 A. M. considerable bleeding from the wound; and at 2 and 4 P. M. bleeding recurred, but on every occasion was easily commanded.

23d. A good night; no renewal of hæmorrhage; aneurismal tumour more distended, pulsating considerably; pulse irregularly intermitting; belly confined. Pil. hyd. gr. v. h. s.

March 28th. Aneurismal tumour again appears enlarged.

March 29th. A small abscess had formed in the course of the cicatrix which discharged itself through the small opening left by the ligature, but by the 5th of April the discharge had ceased and the opening closed.

May 28th. Since the last report the general symptoms have been unimportant; the tumour gradually enlarged and threatened to suppurate, and the pointing prominence noticed on 18th March was so thin, as to cause apprehension of its bursting momentarily. The next day (29th) it gave way, discharging about eight ounces of fetid chocolate-coloured fluid. Compresses and bandage were applied to prevent the apprehended hæmorrhagy. On the 30th, these dressings, soaked with fetid discharge, were removed; there being no sanguineous effusion, and perceiving the opening of the pointed tumour to be insufficient to give exit to the corrupted aneurismal blood, I ventured to enlarge it. The incision being made, from 6 to 8 ozs. of matter similar to the above, mixed with coagula, escaped. I introduced my finger and removed a considerable quantity of coagula and tenacious lymph. In the act of moving my finger for this purpose I felt the artery, below the seat of the ligature, without pulsation, the trachea pushed considerably to the right side, the anterior surface of the cervical vertebræ, and the muscles sterno-hyoideus and thyroideus as if dissected; the sterno cleido mastoideus rounded, and as if knotty, admitting the finger to pass round it. After clearing out the sac a dossil of lint was introduced, and adhesive straps with bandage applied. These dressings being removed on the following day, the lint was found covered with pus, but no discharge from the wound, which looked tolerably well. The swelling had very considerably subsided, the patient had passed a good night, breathed easier, coughed and expectorated less, and the pulse, from 106, had fallen to 80. From this period the countenance and general condition of the patient improved; and every day's visit gave additional reason to hope for his recovery. The great size of the tumour may in part be accounted for by the decomposition of blood and disengagement of gas. The fetor of the matter was such, that I could not remove it from my fingers for two days.

At the present period, (8th June,) the patient begins to walk out of doors, there is no discharge from the wound, which is on the eve of healing; all tumour has entirely disappeared from the neck, and whatsoever fate be in reserve for the patient, the aneurism at least seems to be cured.

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49. *Treatment of Aneurisms by the Method of Valsalva.*—It is stated by M. Paillard, in the *Revue Médicale* for January, 1829, that M. Dupuytren, who has often seen aneurisms treated by the method of Valsalva, has frequently observed that under this treatment aneurismal tumours of the chest, abdomen, and limbs, augment in volume, instead of diminishing, and finally rup[illegible] M. D. explains this phenomena by supposing that the bleeding weake[illegible] parietes of the arteries more than it does the power of the heart, and th[illegible] having thus a greater relative force, ruptures the former.

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50. *Gastrotomy successfully performed.* By Dr. Cayroche.—A woman aged 24, to excite vomiting, introduced a fork into her throat, and permitting it to slip from her fingers; it descended into her stomach, where it remained for many months without producing any apparent injury; but finally very violent effects which threatened the life of the patient supervened, and Dr. Cayroche, after consulting Professors Delpech and Fages, performed gastro[illegible] the fork was easily extracted, and at the end of about twenty days the wound [illegible] healed.

We take the above notice from the *Revue Médicale* for March, [illegible]9, and regret that more details are not furnished. The case was re[illegible] the Medical Society of Bordeaux, by Dr. Barres.

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51. *Prolapsus Ani treated according to the Method of Mr. Hey.* By Dr. Macfarlane.—A shoemaker aged 54, became a district patient in the beginning of February. The gut descended for more than two inches on every attempt to evacuate the bowels, accompanied with considerable pain and tenesmus. When he remained for a few minutes in an erect position, the same displacement took place slowly, although no propulsive efforts were employed; this, however, could be prevented by pressure. The first thing projected from the anus was a circular fold of the mucous membrane of the rectum, at its verge, of a livid colour and tuberculated appearance, and this was soon followed by the complete descent of the bowel and hæmorrhage from innumerable points. The recumbent posture and gentle but continued pressure for a few minutes generally effected the reduction of the prolapsus, although at an earlier period it often continued irreducible for hours. His general

health was much impaired, and the constant irritation and almost daily attacks of hæmorrhage, disabled him from following his employment.

"On examining the anus after the gut was replaced, the surrounding integuments were found extremely relaxed. There existed such an unnatural looseness in the attachment of the skin around the anus, to its corresponding cellular membrane, that it could be easily drawn out with the fingers in the form of one or more large flaps. Having succeeded in two similar cases, which came under my care in the Royal Infirmary, during the summer of 1826, in completely curing the disease, by cutting off the loose integuments, as recommended by the late Mr. Hey, I determined to try it in this case. The skin was drawn as far out as possible into broad flaps, and cut off with the scissors in a circular direction, until all the superfluous integument was removed, including a portion of the livid and tuberculated fold of mucous membrane, which was projected from within the sphincter. The pain was trifling, and only a few drops of blood were lost. A soft compress and T bandage were applied, and he was strictly confined to bed. For a few days, a partial procidentia took place on every attempt to go to stool. He had a good deal of pain and inflammation around the anus, attended with complete retention of urine, which required the frequent introduction of the catheter. In ten days after the operation, he was able to walk about, and void his stools, without any return of the disease, and in three weeks he was perfectly cured. Pressure was continued to the part for some time longer—occasional doses of castor oil were prescribed, and he was enjoined to avoid straining at stool.

"There will generally be found in obstinate and long-continued forms of this disease, a great relaxation in the connexion of the rectum at its lower part, with the surrounding textures. This circumstance, although it may not be the original cause, is sufficient, in many cases, to account for the continuance of the displacement in chronic and inveterate cases, although I believe it is generally accompanied by a diminished power of the sphincter. If the rectum, in consequence of being much irritated, as in various bowel complaints, ultimately becomes relaxed, the tenesmus, which is an invariable attendant, may so overcome the sphincter, as to give rise to a procidentia. But when, as in the case now detailed, the erect position is sufficient to cause a descent of the gut, we have grounds for believing, that besides the relaxed state of the rectum, there exists a want of power in the sphincter muscle, which part, along with the levator ani, is mainly instrumental in maintaining the rectum in its natural situation. In the cases detailed by Mr. Hey, there existed in combination with relaxation of the integuments, one or more livid tubercles at the verge of the anus, which were also removed. He expected from this operation, that inflammation of the surrounding cellular texture would be excited, the attachments of the rectum consolidated, and the power of the sphincter improved. In a majority of cases, the disease will be found to yield, (although the cure is often tedious and protracted,) to the local applications and internal remedies usually employed. Should it continue, however, as sometimes happens after the exciting cause has been removed, we will occasionally find that the loose state of the skin around the anus, and the relaxed attachments of the rectum, at its termination, become the primary causes of the continuance of the disease. It is, I conceive, in such circumstances that this simple operation may be beneficially adopted."—*Glasgow Med. Journal*, Nov. 1829.

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52. *Treatment of Strangulated Hernia when the part is Gangrenous.*—M. Dupuytren says that in strangulated hernia, when the included part is gangrenous, the stricture should not be divided, that operation being in this case useless and dangerous. The only indication is to make early free incisions to expose the gangrenous parts, to facilitate the evacuation of the fæcal matters, and to prevent their infiltration without the sac. If the gangrene have made but little progress, and the discharge of fæcal matters be difficult, a female catheter or gum elastic sound, should be introduced into the superior portion of intestine

and allowed to remain until a free passage for the fæces is established, when it is to be withdrawn. If the surgeon has doubts of the exact condition of the intestine, M. D. says he should not fear to incise the intestine, as if it were sphacelated, since it is shown by a great number of cases, that an opening of the intestine without loss of substance, neither aggravates the disease, nor retards the cure, in the greater number of cases. General and local bleeding, diluent drinks, and diet, ought to be employed to relieve the inflammation of the abdominal viscera.—*Revue Médicule, Nov.* 1829.

53. *Nævus Maternus Cured by Vaccination.*—The following case is related by Dr. Auchincloss, in the *Glasgow Medical Journal*, for May, 1829. A girl, aged eight months, was brought to the Glasgow Royal Infirmary, in September, "having a nævus on the lower part of the forehead, half an inch above the left inner canthus. It was as large as a hazlenut, and of a dark red colour. It was observed at birth, and was then quite level with the surface. After a month it became elevated. Having never been vaccinated, fresh lymph was inserted by minute punctures, both around the circumference and over the whole extent of the tumour. On the eighth day many small pustules were visible, and by the twelfth they had coalesced, and become incrusted. On the twenty-first, the scab separated, leaving the surface underneath tender and slightly prominent. A second crust succeeded, and to this a third and a fourth; a perfect cure being effected in about six weeks."

"I perfectly agree with those who have made trial of this practice, that it is indispensable to the ultimate success of the case, that the lymph should be freely introduced over the diseased surface, as well as around its circumference. In this way, the adhesive inflammation which is excited, appears to extend from one pustule to another, and in the course of a few days the whole becomes involved in one scab.

54. *Extirpation of the Uterus.*—This operation has been performed many times in Germany, in patients affected with prolapsus or inversion of the uterus. Dr. Wolff, of Celle in Hanover, removed not only the uterus, but afterwards the ovaries: the patient died.

Extirpation of the neck of the uterus has been performed by Osiander twenty-three times, by Lisfranc thirty-six times, several times in England, and twice in this country, once by Dr. Warren and once by Dr. Strachan; in Dr. Warren's case part of the body of the uterus was also removed.

Extirpation of the whole uterus for cancer, this organ being in its normal position, has been performed, so far as we can learn from published accounts, ten times, and it is a matter of great interest to ascertain how far the results of these cases justify a resort to an operation, certainly the most severe and painful in surgery, This operation was first performed by a German surgeon, Dr. Sauter, of Constance, in January, 1822. By the commencement of April, his patient's health appeared restored, except an incontinence of urine arising from an opening of the posterior portion of the bladder; she died, however, on the 1st of June, apparently of another disease. On examination, no trace of cancer could be discovered in any of the organs. In Great Britain this operation has been performed six times, four times by Mr. Blundell,* once by Mr. Banner,† and once by Mr. Lizars. Of Mr. Blundell's cases only one survived the effects of the operation, and she died about a year after, and on examination the upper end of the vagina was found uneven, partially ulcerated, vascular, and connected with a mass of cerebriform matter; the ovaries, back part of the bladder, the lumbar glands, and upper part of the rectum also were all affected with organic disease.‡ Mr. Banner's patient died on the fourth day, and the result of Mr. Lizars' case has not been published. In France the operation has been performed three times, once by M. Recamier,§ and twice by M. Roux, the two latter operations were fatal. Thus of ten operations, or rather nine, (for the result of Mr. Lizars' not being known, it should not be counted,) three only are classed as successful. Of these successful cases, M. Sauter's, died five months after the operation; Mr. Blundell's died one year after the operation, and certainly ought not to be considered successful, since, though successful as regards the extirpation, it was unavailing in respect to the preservation of life; M. Recamier's case has been only recently performed, and the result is still to be ascertained. Such are the facts in relation to this operation, and are thus certainly far from encouraging, on the contrary, they appear to justify the following remarks of the editor of the *Medico-Chirurgical Review*. "We consider the extirpation of the uterus, not previously protruded or inverted, one of the most cruel and unfeasible operations that ever was projected or executed by the head or hand of man. We are very far from discouraging bold or untried operations, but there is a line beyond which it may not be prudent to go, even should a solitary instance or two of success rise up as precedents to bear out the operator." In our esteemed cotemporary, the *Journal Générale de Medecine*, the learned editor, Dr. Gendrin, has given a sketch of all the operations for extirpation of cancerous uteri that have been made public, and to that work for October last we refer the reader who desires further details.

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* Lond. Med. Gaz. Vol. II. p. 294. † Idem, p. 582. ‡ Idem, Vol. III. p. 800. § See our last No.

Since the above was written, we have received the number of La Clinique for the 20th of January last, from which we learn that M. Recamier again performed this operation, on the 13th of January, and that hæmorrhage supervened, and the patient died the second day after the operation.

55. *Case of Strangulated Crural Hernia, reduced spontaneously after Gangrene of the Hernial Sac.*—This singular case was communicated to the Medical Society of Paris, by Dr. GIROUARD, of Sancheville, and is published in the *Journal Générale*, for December last. March 18th, 1826, Dr. S. was called to a woman, aged thirty-one years, in the sixth month of her pregnancy, who had been affected for four years with a crural hernia of the right side. This hernia, originally indolent, entirely reducible, and of the size of a pullet's egg, had acquired suddenly the size of a fist, in consequence of an effort the preceding day to express a fart. The patient was affected with the usual symptoms of strangulated hernia, and tonics, bleedings, baths, leeches, emollient cataplasms, tobacco injections, &c. employed without success, and an operation proposed, but the patient refused to submit to it. On the sixth day the hernial tumour became livid, clammy, and the epidermis raised, forming here and there phlyctenæ filled with a reddish serosity. During the night, violent colics; the patient was sensible of something quitting the tumour and enter the abdomen; after this copious evacuations from the bowels took place. The seventh day the mortification of the envelopes of the hernia became evident, and all the symptoms of strangulation had disappeared. The fifteenth day the mortified parts were thrown off, and comprised not only the skin and peritoneal envelope, but also the periphery of the crural opening, so that the fingers together could be introduced into this opening; behind this opening a portion of intestine, highly injected, and which completely closed it, was perceived. The opening healed by granulations by the fortieth day, and at the full period of utero-gestation the patient was delivered of a healthy child.

56. *Fissure of the Anus successfully treated without Incision or Cauterization.* By M. DUPUYTREN.—M. Dupuytren considers spasmodic constriction of the sphincter as the true lesion in this affection, and the elongated ulcer called fissure of the anus as a secondary phenomenon. In curing the stricture of the sphincter the disease is cured, and the anti-contractile property of the belladonna renders it a proper application. M. D. has effected cures with this remedy a number of times. The following case is reported in the *Revue Médicale*, for March, 1829, by M. Paillard. A healthy young woman had been affected for some weeks with very violent pains in the anus, whenever she went

to stool, especially when the fæces were hard. At first these pains continued only a few minutes, but afterwards they persisted longer, and finally continued during some hours. When she entered the Hôtel Dieu her anus was examined with care by M. Dupuytren, who discovered there a very superficial fissure. The constriction of the anus was very considerable, the finger could not be introduced into it without difficulty and causing great pain. Unwilling [illegible] subject the patient to the pain and inconvenience of an incision or cauterization, M. D. prescribed the introduction into the anus of a roll of lint smeared with the following ointment, and renewed every time the patient went to stool: ℞. Axunge, ℥vi.; extr. bell. ʒj.; acet. plomb. ʒi. M. This ointment calmed the pains; in a few days they entirely ceased, and the patient was relieved of her disease.

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57. *Amputation of the Penis.*—When the penis is excised, especially near the pubis, from the retraction of the parts it is sometimes difficult and even impossible to discover the opening of the urethra, so as to introduce a catheter into it, whence very unpleasant or even fatal results may happen. To obviate this difficulty, some operators introduce into the urethra a metallic sound, upon which they cut; this renders the operation, however, longer and of course subjects the patient to more pain. M. Barthélemy, Surgeon to the Hospital du Gros-Caillon, recommends the introduction of a gum elastic catheter as far as possible into the bladder, when the penis and catheter are both to be divided by a single cut.—*Journal Universel, August*, 1829.

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58. *Dupuytren's Method of Removing Fibrous Polypi of the Uterus.*—M. Dupuytren, instead of the method hitherto employed for the removal of uterine polypi, extirpates them in all cases with the knife. He has been led to prefer this operation, from the consideration of the fibrous nature of polypi, the facility with which by moderate but continued traction the uterus may be drawn even with the vulva, the fact that hæmorrhage is less to be feared than is supposed, and that the difficulties arising from the deep situation of the pedicle of the tumour may be easily overcome. Besides, it is sometimes impossible to apply a ligature, either because the tumour is too deeply situated or completely fills the vagina, and even greatly distends it, so that the fingers or instruments for applying the ligature cannot be introduced; moreover the consequences of the application of the ligature are often very dangerous. The following is M. Dupuytren's mode of operating. The patient is placed on her back upon the edge of a bed, her legs and thighs flexed and fixed as for the operation of lithotomy. Very strong dressing forceps are introduced into the vagina, with which the polypus is seized hold of, if it do not project beyond the vulva; the forceps are introduced on the finger or with the aid of a speculum; in [illegible] case their branches must be straight, and the rings small, so that they can [illegible] into the speculum, when the latter is withdrawn from the vagina, after the polypus has been seized hold of by the forceps. The surgeon then employs gradual traction to draw out the polypus, or if it already project beyond the vagina, to expose its pedicle. Sometimes a single forceps is not sufficient, the first is then confided to an assistant, who continues the tractions, and the surgeon takes hold of another part of the polypus with another pair of forceps, and thus the desired effect is produced. The pedicle being brought to the orifice of the vagina, the surgeon ascertains the size of the pedicle and whether there be in [illegible] any large arteries, the latter is ascertained by the pulsation. If there be pulsations, a ligature is to be applied above the place where it is intended to make the incision, but where no pulsations are discovered, the pedicle is to be divided with a bistoury or scissors curved on both sides. When there is no pedicle, M. Dupuytren makes around the anterior half of the base of the tumour an incision which penetrates into the mucous tissue, the sub-mucous cellular tissue, or even the proper tissue of the uterus; a similar incision is made posteriorly,

the two incisions united, and the tumour dissected out. In this case the operation is more complicated, and may be more readily followed by hæmorrhage, inflammation, &c. M. Paillard, who reports this method in the *Revue Médicale* for June, 1829, states that numerous successful cases attest the advantages of this operation. It may be conceived that when these tumours are soft or have degenerated so as to tear easily, that it will present obstacles to the operation, but with p[illegible] prudence, and slow and moderate traction, M. P. says that the surgeon [illegible] eventually succeed. Experience proves, he says, that dangerous hæmorrhage never occurs; once only M. D. has been obliged to have recourse to the tampon, which readily arrested the hæmorrhage.

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59. *Treatment of Indolent Ulcer of the Leg.*—J. SYME, Esq. of Edinburgh, has lately adopted a method of treatment of indolent ulcer of the leg, certainly one of the most perplexing affections that the surgeon is called upon to treat, which he considers as in many respects preferable to the method recommended by Mr. Baynton, though he believes that the latter when properly executed will sooner or later effect a cure, if a cure be practicable. "Some frivolous and wrong-headed improvers have advised," says Mr. S. "that the straps should not encircle the whole limb, but only two-thirds of it, and hence have done what they could to bring themselves and the practice into contempt. I have lately cured an ulcer on the leg of a lady, which had existed without interruption for twenty years, and was deemed incurable, because it had resisted the most assiduous exertions of several surgeons in town. When I proposed to apply adhesive plasters, the patient would hardly consent, because they had been tried previously without success. I ascertained that they had not encircled the limb, and hence the failure."

Mr. Syme's method, which he prefers to Baynton's, consists in the application of a blister over the ulcer. "It is not unusual to meet with cases of indolent ulcers," he observes, "which after exhibiting their characteristic obstinacy in opposition to the most careful treatment, heal up at once without any attention, so soon as the limb begins to recover from an attack of phlegmonous erysipelas which it has happened to suffer. The observation of such cases led me to try the effect of inducing a similar inflammation artificially, and the result has fully equalled my expectations. The means employed for this purpose were blisters, and the object being to excite a smart and diffuse inflammation, they were not limited in extent to the size of the sore, but were made to cover a great part of the limb, and were allowed to remain in operation for a long while, sometimes even twenty-four hours.

"The first effect of the blisters in these cases is a more than ordinary inflammation and discharge, the surface sometimes continuing to suppurate profusely for several [illegible], just as if the cutis had been denuded by a scald or burn.

"In a [illegible] or two the patient is agreeably surprised by observing that the œdematous swelling of the limb, which so constantly accompanies ulcers of the kind under consideration, begins to subside, and in the course of a very short time, rarely exceeding a week or two, it nearly or entirely disappears. The consequence of this detumescence is a great diminution in the size of the sore, which also comes to be on a level with the surrounding skin. Then the surface takes on a healthy granulating appearance, and the sore heals, partly by contraction, partly by the formation of a cicatrix. For the first few days after the blister has been applied, some simple ointment may be used, just as in the ordinary treatment of a blistered surface, and afterwards a wash of acetate of lead, or sulphate of zinc, in the proportion of one or two grains to the ounce. If the sore should again prove obstinate, the blister may be repeated, and if a small part remains stationary towards the conclusion of the cure, it ought to be filled with the red oxide of mercury, or a mixture of this powder with flour. My friend, Professor Davidson of Aberdeen, induced me to try this application in the treatment of ulcers, and I cannot say too much in its praise, especially in the case just mentioned. After one or two dressings it forms a firm crust over the sore, which ought not to be disturbed, and renders any further interference unnecessary."

Mr. S. ascribes the good effects of blisters which have been just described, to their stimulating the absorbent vessels, so as to remove the œdema.

This treatment cannot be considered as new in this country, the late Dr. Dorsey, many years ago, recommended and successfully employed powdered cantharides as an application to certain indolent ulcers of the leg. See Elements of Surgery.—*Edin. Med. and Surg. Journ. Jan.* 1830.

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60. *On Operations Performed at the Solicitation of the Patient, against the judgment of the Surgeon.*—We find in the *Revue Médicale*, for March, 1829, the following interesting observations on this subject, by M. Paillard; they may be considered as expressive of the sentiments of M. Dupuytren. It is generally observed that severe operations, performed against the opinion of the surgeon, merely to comply with the desires of the patient, are rarely successful. Whatever precautions are taken to insure success, death often supervenes. Although the surgeon explains to the patient all the hazards of the operation, and consequently has nothing to reproach himself with, still the idea of having been the cause of the death of an unfortunate person, must painfully afflict him. The case we are about to relate, is calculated to render surgeons exceedingly circumspect, and induce them to refuse with firmness to perform operations merely to satisfy the patient. M. Dupuytren has seen the most violent symptoms supervene in consequence of the amputation of a deformed great toe. In another instance death followed the extirpation of a supernumary finger in an adult. A case is related of amputation of a badly-formed leg, by M. Dupuytren, which terminated fatally, and the same result took place in a case of a similar kind, operated upon by Sabatier.

The following case was communicated to Dr. Paillard by Dr. Sterlin. An old servant had been affected for some time with an ulcer of the leg which would not cicatrize permanently; tired with being constantly obliged to attend to a disease that returned continually, he entered the Hôtel Dieu, of which Pelletan was then first surgeon, and earnestly solicited him to perform amputation. M. Pelletan at first refused, but finally yielded to the solicitations of the patient, and consented to operate, not however without previously explaining to him all the hazards he encountered; but the patient was inflexible. The first few days every thing seemed to promise a favourable termination, but quickly violent symptoms supervened, some important viscera became violently inflamed, and the patient was soon in the utmost danger. Just before his death he collected his strength, and in an energetic manner, and with an eloquence that would not be suspected in an uneducated man he reproached M. Pelletan for his weakness in yielding to his solicitation. He [illegible] some moments after having thus given vent to his anger. M. Pelletan was [illegible] course very much affected by this painful scene, and long preserved the remembrance of it.

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61. *Case in which a Portion of Bone was lodged for Forty-eight Days in the Trachea of an Infant.*—This singular case is related by Thomas Stabb, Esq. in the *London Medical Gazette* for December last. "On the 20th of September last, S. H. S. aged ten months, playing with a bone of a neck of mutton, which the nurse gave her whilst at dinner, put it into her mouth and detached a small portion, about the size of a large marrow-fat pea, which slipped into her windpipe, and produced violent coughing and irritation for about five minutes, when it ceased, leaving a noise in breathing like that produced by a saw. In the course of twenty-four hours great difficulty of breathing, with constitutional irritation and cough, came on, which was subdued by the usual remedies. The same saw-like noise of breathing and some cough continued, but did not appear to give pain after the fourth day; the child's health and spirits after that time appearing as good as usual, except this constant wheezing.

"On the 3d of November, upwards of six weeks after the accident, in consequence of a cold she took from going out into the air, violent irritation in the trachea, with cough, returned. A solution of tartarized antimony was given, and on the 7th, after a dose which produced vomiting and general relaxation, and whilst the nurse was briskly rubbing her throat with a volatile embrocation, the head being bent back over her lap, she was seized with a violent fit of coughing, and threw up the piece of bone, imbedded in mucus, which had been retained for eight days in the trachea; her breathing almost immediately became natural, and the next day she was as well as ever. The piece of bone was very rough, of a triangular shape, the edges quite sharp."

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62. *Wax as an Application to Ulcers.*—The application of wax to old ulcerated legs has been practised in the Westminster Hospital, with great success, within the last few months. In every instance it has rapidly improved the character of the sore, and brought on a disposition to skin over, and in the greater number of cases the ulcers have healed in a much shorter time than could have been calculated with the ordinary applications--indeed it has succeeded often when all the usual dressings had been tried and failed.—*Ibid.*

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63. *On the Utility of Water as an Application in the Treatment of Wounds, Ulcers, Diseases of the Skin, &c.* By JOHN M'FADZEN, M. D. Surgeon, Buttevant.—The treatment of ulcers, wounds, &c. by the simple application of water, was revived some years since by Professor Macartney, of Dublin, and it has been said with great success; and in the *Edinburgh Medical and Surgical Journal*, for January last, Dr. M'Fadzen has published some observations and cases illustrative of its efficacy. The mode of applying this remedy is exceedingly simple and attended with very little trouble. "A piece of lint dipped in cold water is to be applied with the soft side to the part, and covered with oiled silk, which should extend considerably beyond the limits of the lint, and retained in its place by a light bandage, or any other means the practitioner may deem proper. Any other substance capable of preventing evaporation, and sufficiently light and pliable, such as very thin Indian rubber, would answer the purpose as well as oiled silk. The dressings should be removed three times a-day, or less frequently, if the secretions from the part are trifling, for the purpose of wetting the lint as it becomes dry, and freeing it from the secretions of the wound or skin, which would in a short time become irritant; therefore it is not sufficient that the lint should be merely moist, for this moisture may be occasioned by perspiration or other discharge of the part collected under an impervious substance. Hence the lint must either be occasionally removed, or well washed in cold water, and in like manner the oiled silk or Indian rubber.

"From what has been stated, it must appear that the good effects of this treatment depend upon the production of steam at the temperature of the surface of the body, which, being retained by the impervious silk, subjects the part constantly to an atmosphere of that vapour.

"I hope it may not be considered irrelevant to mention here, that oiled silk is also a valuable substance for applying the emollient poultice, having this advantage over linen or calico, that it retains its moisture and heat, at least the heat of the surface over which it is placed, for a greater length of time."

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64. *Tinea Capitis.*—There are perhaps few practitioners who have not been occasionally foiled in their attempts to cure this disease. The stimulating ointments and applications usually recommended, we have found very frequently to fail in affording relief, and not unfrequently they aggravate the mischief. We have been most successful with the physiological practice—treating the disease like other inflammations, with leeches, and then applying a poultice of flaxseed mucilage to the scalp, covering it with an oil-silk cap. After all inflammation has been subdued by these means, a moderately stimulating ointment may sometimes be found useful. In the last number of the *Edinburgh*

Medical and Surgical Journal, Dr. M'Fadzen recommends a lotion of the acetate of lead, which Dr. Macartney also says will cure the eruption. The only thing to be feared, says Dr. M'F. is its being healed too suddenly. The following case, in which the remedy was successfully employed, is given. A boy, aged eleven, of a flabby habit, and subject to a cough, has been labouring for some years under *Tinea capitis,* or the *Porrigo scutulata* of Dr. Bateman, which has resisted all the common remedies, both local and constitutional, not only under my own care, but by the advice of others. The head having been shaved and well washed with soap and water, which exposed a number of inflamed irritable patches, covering about half of the hairy scalp, I dressed the head according to Professor Macartney's plan, namely, covering the diseased scalp with charpie dipped in a solution of the acetate of lead, (gr. iij. ad ℥i. Aq.) and applying over all a well-fitted oiled silk cap, leaving directions to wash the lint three times a day in cold water, in order to free it from the secretions of the skin, reapplying it to the head, wetted with the medicated lotion. He has called upon me this day, (July 26th,) when I was happy to find him nearly cured, the inflamed and irritable patches having been replaced by a comparatively healthy skin. No constitutional treatment whatever was resorted to.

65. *Case of Fracture and Depression of the Inner Table of the Cranium by a musket ball, the External Table being uninjured.*—The following singular and interesting case, which occurred in the practice of Staff-surgeon Cooper, is related by Dr. HENNEN in his Military Surgery. The patient was struck at the battle of Waterloo, with a musket ball, on the right parietal bone, which was exposed, and had no appearance of being fractured; as, however, the symptoms of compression were urgent, and the patient was nearly in a lifeless state, Mr. Cooper conceived it right to apply the trephine to the part on which the violence had acted. He had not sawn long before the external table came away in the hollow of the trephine, leaving the inner table behind, which was not only splintered, but driven at one point more than half an inch into the membranes and substance of the brain. No sooner were the fragments taken out with a pair of forceps, than the man instantly sat up in his bed, looked around, and began to speak with the utmost rationality. It is a most extraordinary fact, that this patient got up and dressed himself the same day, without leave from the medical officers, and never had a bad symptom afterwards.

66. *Dislocation of the Clavicle forwards.—Reduction at the Expiration of Twelve Weeks.*—A man aged 50, fell with his arm outstretched in such a manner that it bore the whole brunt of the violence. Inability to raise the arm as before, and "an *intense dull swelling,* which after a time became almost imperceptible from the enormous degree of tumefaction which [illegible]," were the consequences of the accident. No attempt at reduction was [illegible] and twelve weeks after the occurrence of the accident he entered the Winchester Hospital under the care of Mr. Lyford. On the superior part of the sternum was a distinct obtuse projection, exquisitely sensible when touched, and attended with slight inflammation of the integuments; this projection could readily be traced as a continuation and termination of the clavicle, though the motions of the shoulder appeared to produce no alteration in its situation. The motions in question were painful; the shoulder itself had a decided inclination forwards, and the distance between its point and the mesial line of the sternum, was shorter, on admeasurement, than in the opposite extremity.

"The treatment consisted in the application of the clavicle bandage with pads under the axilla. The shoulders were drawn backwards, as far as they could be, which was not, however, to the fullest extent, the patient having acquired, from his agricultural pursuits, a somewhat prominent back, so that the bases of the scapulæ were farther asunder than natural. The effect of the bandage was not that of restoring the dislocated extremity of the clavicle immediately into its proper receptacle on the sternum. This object was accomplished, in the most gradual manner, by tightening the bandage every four or five days, until the scapulæ were completely approximated. The patient was confined in bed for three weeks on his back, which greatly assisted the bandage in its office of retaining the shoulders in the wished-for position. Moderate pressure was made by the application of soap-plaster on the dislocated parts; and, at the expiration of a month, the parts had acquired their original and natural situations."—*Med. Chirug. Rev. Jan.* 1830, *from the Provincial Medical Gazette, No.* 11.

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67. *Dislocation of the head of the Radius backwards.*—Two instances of this dislocation which is considered by Sir Astley Cooper as extremely rare, are related in the 11th No. of the *Provincial Medical Gazette*, by Mr. Case.

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68. *Vesico-Vaginal Fistula.*—These are not very uncommon after tedious labours, and constitute one of the most troublesome and disgusting infirmities to which the female sex is liable. The treatment generally pursued has been that recommended by Desault, viz. the retention of a catheter in the urethra and the introduction of a plug of some kind into the vagina, in order to keep the edges of the fistula as much as possible in apposition. This plan, though sometimes successful, has more frequently failed, and is extremely tedious at the best. M. Dupuytren has employed the actual cautery in these cases for a considerable time and with great success. He prefers it on every account to the use of the nitrate of silver, and employs it in the following manner:—the patient is placed across the bed upon her belly, with a pillow or two beneath her to elevate the pelvis, and her lower extremities out of the bed and held by assistants. A speculum in two pieces and hollowed like a flute, is introduced into the vagina, and the fistula exposed to view. With a cautery shaped like a French-bean, named by M. Dupuytren *cautère en haricot*, the edges of the fistula are lightly touched, so as merely to stimulate without destroying them. The swelling which succeeds this cauterization chokes up the fistula for the time, the urine ceases to escape through the aperture, and either cicatrization and obliteration are effected or the aperture is much contracted in diameter. Two or three applications of the iron are commonly required, and in order to ensure the free discharge of the urine from the bladder during the process, a catheter may be kept in the urethra. This, however, according to M. Dupuytren, is seldom required, and the operation has succeeded in a great number of instances at the Hôtel Dieu. The most favourable cases are those in which the aperture is longitudinal, the most unfavourable when it is transverse. In the latter, when accompanied with much loss of substance and a considerable communication between the bladder and vagina, cauterization will scarcely succeed, and it then becomes necessary to resort to other means.—*Journal Hebdomadaire, No.* 58.

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69. *Hydrocele of the Spermatic Cord complicated with Peritonitis, and Constipation of several days continuance.*—The following interesting case of hydrocele simulating strangulated inguinal hernia, was treated by Dr. Maclachlan, in the Glasgow Royal Infirmary. A child, aged two years, was admitted June 24th, 1828, with an oblong elastic tumour, about the size of a walnut, in the upper part of the scrotum. The testicle was situated immediately below, and posterior to this tumour, but separated from it. The integuments of the scrotum moved freely over, and were not discoloured. The tumour enters, and distends the external ring, and is painful when handled. Abdomen is much distended, and tympanitic; and the child cries when it is touched, particularly at the lower part. No stool for eight days, and for the last two has had nausea and occasional retching. Pulse 120; skin hot; tongue white; great thirst. His mother says that she first observed this tumour about three months ago, in the situation of the external ring; and that it gradually enlarged, and descended toward the scrotum. She could easily make it disappear by pressing on it; and its disappearance was

always accompanied by a gurgling noise. She states that she was recommended by a surgeon to get a truss to keep it up; that it has continued in its present situation for two weeks past; that the child has had no stool for the last eight days; and that two days ago, nausea and retching came on, when a surgeon was consulted, who attempted to reduce the tumour by the taxis, but failed.

Here, then, were all the symptoms of incarcerated bowel, with a tumour filling the external ring, which, from its situation, and the smallness of its size, could not, by any possibility, be distinguished from inguinal hernia. The taxis was tried, but without any change in the tumour. As the symptoms, as yet, were not very urgent, and as the incarceration appeared to be rather *par engouement* than strangulation, the boy was ordered, (at 2 P. M.) three grains of calomel; in an hour after to have ʒij. castor oil, and in two hours more, a laxative enema, and to be placed in the warm bath. Should these means afford no relief, a consultation to be summoned for 6 P. M.

The enema brought away a pretty large stool, composed entirely of hardened balls and some blood; but there was no indication of the medicines given by the mouth having contributed in any way to it.

Consultation met at six o'clock. No relief from the stool. The boy was more feverish and restless. Complained more on the tumour being handled. Abdomen still swollen, hot, and tender to touch. Pulse 140. Skin parched. Face flushed; in short, a considerable aggravation of all his symptoms. A moderate trial of the taxis having again failed, it was decided to open the sac, and ascertain the nature of its contents. At 7 P. M. this was done in the usual manner, and on laying open the investing membrane, a gush of clear fluid, followed by a considerable quantity of thick jelly, was pressed out, showing the tumour to be hydrocele of the cord.

The parts were immediately brought together, and a light compress applied. He had three grains of calomel, and afterwards infusion of senna, but it was not till the following morning that stools were procured. These were very fetid, dark-coloured, and lumpy. He passed a very restless night. Skin excessively hot, and feverish symptoms in general increased. Abdomen tense and much swollen, and he cries much on its being touched. He was ordered half a grain of calomel every four hours. Six leeches to abdomen, and the warm bath.

26th. Cord and testicle hard and painful; pulse 144; less heat of skin; two dark-coloured stools; leeches to scrotum; calomel, and bath to be repeated.

27th. Feverish symptoms somewhat abated. Swelling of cord as yesterday, only there is less redness around wound. Several stools last evening, in which there were several lumbrici. Had infusion of senna twice, and the bath.

29th. Leeches were again applied to-day; and he continued the calomel and bath. Abdomen continues enlarged and tender. Passed numerous lumbrici, and latterly ascarides in large quantities. Countenance pale and of a yellowish tinge. He vomits occasionally.

2d July. Gradually wasting; abdomen swollen, but soft; occasional retching; swelling of cord and testis abating; pulse 160. He continued gradually to decline during the two following days, and on the evening of the 4th he died.

Dissection.—Abdomen contained nearly a pint of purulent fluid. The intestines were enormously distended with flatus, and at some points slightly adherent; peritoneum pale, the spermatic cord from testis to inner ring was hard, and enlarged to nearly three times its natural size; and within its sheath a small abscess was found, containing ʒij. of pus. Left side of the chest contained about twelve ounces of sero-purulent fluid, and the lung was covered with a thick layer of lymph.

All surgical writers agree as to the extreme difficulty of distinguishing hydrocele of the cord, when small, and when it distends the external ring, from inguinal hernia, even when none of the symptoms of strangulated bowel are present; but when peritonitic symptoms exist, with absence of stools, discrimination becomes absolutely impossible. Even Mr. Pott,* a competent judge, one would think, was much puzzled in a case of hydrocele of the cord, where *no* febrile symptoms were present. A lad of 14, had a large tumour, full and tight, possessing the whole spermatic process and scrotum down to the testicle, which was independent of it, not tender to touch, unless pressed hard. It bore so hard against the opening of the abdominal muscles, that Mr. Pott could by no means feel the spermatic process. He had had no stool for five days. "Some of these circumstances were of importance, and might be occasioned by a stricture on the intestinal canal; but, on the other hand, his pulse was soft, calm, and quiet. His skin was cool; he had neither tight belly, nausea, hiccough, nor vomiting, nor any other symptom deducible from such a cause. From the mere appearance and feel of the tumour, I should have supposed it to be caused by water; but the difficulty of distinguishing the spermatic process above, the freedom of the testicle below, and the want of stools, made me hesitate." He tried the taxis, and not succeeding, he, in the absence of urgent symptoms, gave him a purging mixture and an enema; and bled him. His medicine operated in *two hours*, and he was relieved. But Mr. Pott was not satisfied. "I examined it again and again, and was still more positive that it contained a fluid; but whether that fluid was in the tunica vaginalis, or in a hernial sac, I could by no means be clear. However, as there was no possible method of getting rid of it but by an opening, I determined to make one with such caution as to be prepared for whatever might happen." The treatment adopted in both cases was precisely the same, only in Mr. Pott's case bleeding was had recoure to; but surely the diagnosis was much more difficult in my case than in Mr. Pott's. Other cases might be cited to prove the difficulty of diagnosis. I shall content myself, however, with the following from Mr. Dewar's paper in the Edin. Med. and Surg. Journal.* "I was requested by Dr. Stenhouse to visit a patient of his, who was labouring under hernia. The man was suffering from pain and distention of the belly; frequent vomiting, and obstinate costiveness. There was a firm elastic swelling, about the size of a pigeon's egg, occupying the inguinal canal. He complained of very little pain on handling the tumour. When an attempt was made to return it into the belly, it receded in a slight degree within the canal; but returned to its former situation immediately on the fingers being removed. All the usual means of effecting reduction were tried without success, and the operation determined upon. When the tumour was opened by Dr. Stenhouse, a small quantity of a glairy fluid ran out, and the finger was passed to the second joint, in a shut sac, which had no communication with the abdomen. Of course; no relief followed. His bowels, however, ultimately yielded, and he got well. I do not yet know, after frequent reflection upon this very interesting case, how it could be distinguished with certainty from hernia."

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* Works, Vol. IV. Case 13.

The circumstance of a stool being passed is by no means decisive of the absence of strangulation. An enema frequently brings off fæces from the colon and rectum, in cases of incarceration. Mr. Tyrrell† mentions a case in which even four copious stools were passed, notwithstanding the existence of strangulation, which afterwards required the operation. "The sac contained a portion of intestine highly inflamed, and perfectly incarcerated." The man died, and, on dissection, the following is stated as the condition of the gut:—"The portion of intestine which had been strangulated consisted of a complete fold of the ilium, including the whole diameter of the gut; it had still the mark from the stricture upon it, and was much more discoloured than any other part." The fæces, therefore, could not have passed this constriction; they must have been furnished by the bowel lower down than the point of strangulation. It is evident, from the case above detailed, that the child laboured under peritonitic, and perhaps pleuritic symptoms on admission, the consequence of long-continued constipation, and the irritation of worms—That there existed a tumour in the situation of inguinal hernia, which could not be distinguished from that disease—That the history furnished by the mother was every way calculated to mislead—That there was constipation of many days' continuance. The taxis having failed, and the inflammatory symptoms continuing to increase, there was no alternative left for the surgeon. He must have ascertained the nature of the contents of the sac; if hernia, he was right; if hydrocele of the cord, he could scarcely be said to be wrong, for this also requires such an operation for its cure.—*Glasgow Medical Journal, Feb.* 1829.

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* Vol. XXX. p. 44.

† Cooper's Lectures, Vol. III. p. 21. Note by Tyrrell.

MIDWIFERY.

70. *Description of a Cicatrix of the Uterus, eight years after the Cæsarian Section had been performed.* By Professor MAYER, of Bonn.—The patient had been operated upon in 1813, by Professor Walther, of Bonn; she died eight years afterwards, and her uterus is at present preserved in the Anatomical Museum of Bonn. The uterus is of its natural form, size, and consistence; its longitudinal diameter being two inches and seven lines, and the distances between the insertion of the fallopian tubes, one inch and ten lines. At the external surface of the anterior paries, a furrow, three lines in length, indicates the place where the incision was made; the peritoneum is very firmly adherent to it. The edges of the wound were found to have considerably contracted, and appeared to be, as it were, turned in towards the substance of the uterus: at the inner surface the cicatrix was a little more inferior, and larger by half an inch than exteriorly; it extended as low as the neck of the uterus, where it was one line and a half in breadth. The anterior paries of the uterus, in the neighbourhood of the cicatrix, was three lines thick; the corresponding portion of the posterior paries was four lines. The cavity of the uterus was perfectly natural, except that there was a very thin fleshy polypus at the neck; the left tube and ovary were perfectly natural; those on the right were adherent to each other by plastic lymph. The ovaries exhibited numerous cicatrices.—*Lond. Med. and Surg. Journ, Oct.* 1829.

71. *Procidentia Uteri.* By J. J. KNOX.—E. Stivens, æt. 20, unmarried, of delicate habit, applied to Mr. Knox with a tumour in the vagina, protruding between the labia, about four inches in length, of a deep red colour, and excoriated in a high degree. She complained of general debility; great pain in the back and loins and constant bearing down sensation; much inconvenience in walking; and pain in voiding her urine which she could not retain so long as she used to do. She stated that the tumour first made its appearance three months previous to her application, that then it was small, and had gradually increased to its existing size, and that she had been much troubled with leucorrhœa. A more minute examination was now instituted. The finger could not be introduced into the vagina, nor could the os tincæ be felt, but on carefully inspecting the apex of the tumour a small foramen was discovered, which easily admitted the blunt end of a probe, and from which a red liquor, evidently the catamenial discharge, then present, was oozing, The lips of the os tincæ were completely obliterated in consequence of the swelling of the parts, and presented a circumference the size of a dollar, in the centre of which the orifice into the uterus was placed. The case was obviously one of procidentia uteri, and the complete eversion of the vagina accounted for the impossibility of introducing the finger.

Much to Mr. Knox's surprise, gentle pressure on the tumour in the line of the axis of the pelvis, the patient being placed upon her back with the hips elevated, readily effected the return of the prolapsus. Next morning a pessary was introduced, and answered the intention well in conjunction with injections of alum and oak-bark. The discharge ceased, the uterus descended no more, and the patient experienced no inconvenience from the instrument.

"Since I met with this case, I have had an opportunity of examining more minutely the state of the parts in this disease, in the body of an old woman, which I was requested to open. In her, a tumour nearly five inches in length, and nine or ten in circumference, protruded between the thighs, presenting all the external characters noticed in the above. Being anxious to have a view of the parts within the pelvis, I opened the abdomen for that purpose. The protruded vagina formed a large cul-de-sac, in which were contained the uterus and its appendages, the bladder and part of the small intestines. The parts were much altered and thickened by inflammation, and bound together by innumerable bands of new membrane, which could with difficulty be separated by the fingers. The bladder was much smaller than usual.

"The everted vagina was not unlike to skin, and when cut into, was found to be nearly half an inch in thickness, and remarkably hard.

"Procidentia uteri is, comparatively speaking, a rare disease in young and unmarried females. It would appear, that whatever tends to relax or dilate the passages, gives a tendency to this most troublesome complaint; and hence it most frequently happens to those who have had large families, and who have been much troubled with leucorrhœal discharges. It is very troublesome, and not unfrequently incurable. The urine cannot be retained so long as usual, which is easily accounted for; as in the dissection related above, the fundus vesicæ was dragged along with the uterus, and retained in its new situation by membranous bands, which prevented its distention; its passage, also, along the tumour, produces excoriation and great uneasiness. In the treatment of this formidable disease, it is of the utmost importance, as soon as its nature is known, to replace, and retain the parts in their natural situation; but it not unfrequently happens, that if they have been long displaced and unattended to, it is impossible to do so, and dangerous to persist in our attempts at reduction, if great difficulty is experienced. In the dissection related above, the parts were not only altered in texture, and consequently would, if reduced, have operated as a foreign body, but were so bound down by adhesions, as would have prevented their reduction, or, if ruptured, have occasioned such a degree of inflammation as in the end would have been fatal. In old and irreducible cases, therefore, the best and only thing that can be done, is to support the displaced parts, in order to guard against their further descent, and to protect them from injury.

"Another interesting fact derived from the above case is the confirmation of the already received opinion, that the catamenial discharge is elaborated by the uterus, and not, as was formerly imagined, by the vagina, as in this case the secretion was seen oozing from the mouth of the uterus, so that, added to those related by Morgagni, and Dr. William Hunter, it sufficiently proves that the catamenia are secreted by the uterus alone."—*Medico-Chirug. Rev. Jan.* 1830, *from the Glasgow Journal, No. VII.*

MEDICAL JURISPRUDENCE.

72. *Detection of Arsenic seven years after Death.*—M. Orfila communicated to the Royal Academy of Medicine, at their meeting on the 1st of December last, the following case. In June last, says M. Orfila, I was asked whether an exhumed body, seven years after burial, would exhibit any signs of poisoning by arsenic, and what chemical processes were, in such a case, the best to be resorted to. My answer was, that at such a period the body would very likely be so thoroughly decomposed as to make any inquiry impossible. In case however the lateral portion of the vertebral column, especially at the lumbar and dorsal vertebræ, were found covered with a blackish substance, this might be acted upon in the manner described in my work on poisons. After this question had been addressed to me, and I had answered in the above manner, MM. Ozanam

and Ive, were requested by the "Procureur du Roi," to proceed to the exhumation of the body of a person who was supposed to have been poisoned in 1822. Their inquiries into the cause by which the individual in question had died, have been successful, and tend to prove, in the clearest manner, the existence of arsenic in the dead body. The following are the details:—

The grave had been made in a dry and gravelly soil with a small quantity of the sulphate of lime, which latter circumstance undoubtedly most contributed towards the remarkable conservation of the body; the coffin was not in the least injured, the bottom only was tinged with a brownish fluid. The identity of the body was proved by the "curé," the grave-digger, and the national guards, who had escorted the funeral; besides, the hair of the head had not undergone the least alteration, the teeth were still in their sockets, except one canine tooth, which the individual had lost before his death; and lastly, the undertaker recognised the coffin. The head, trunk, and extremities, were in a state of perfect integrity; the chest was collapsed; the heart and lungs moulded into a semi-fluid mass of black colour, without any smell. The head and extremities were left in the coffin, as being useless for the investigation; the mass on which the inquiry was to be made was of nine pounds weight, two of which were, however, not subjected to the inquiry, but reserved for the repetition of the experiments. The substance was boiled several times, and then evaporated to a dry extract, which was again dissolved in a sufficient quantity of distilled water. This solution was of a dark-brown colour, which was but incompletely destroyed by chlorine; it was again evaporated, and the remainder detonated with the nitrate of potass. The residuum having cooled, was dissolved in a saturated solution of nitric acid, and now finally submitted to different tests, all of which evidently showed the presence of arsenic in the fluid. A portion of it being mixed with charcoal, and heated in a glass tube, MM. C. and J. succeeded even in reducing the arsenic to its metallic form. Another portion mixed with the solution of sulphuretted hydrogen, gave sulphuretted arsenic, which being heated with caustic potash, gave a bright metallic layer, proved to be soluble in distilled water by a current of oxygen.—*La Lancette Française.*

73. *Case of Vagitus Uterinus.*—Dr. A. F. Holmes, Lecturer on Chemistry and Materia Medica in Macgill College, Montreal, communicated to Dr. Duncan the following case:—"On the 29th November, 1828, I was called to a lady in labour of her sixth child. The fontanelle presented, but the pelvis being capacious, and her labours generally easy, no attempt was made to change the position. The head continuing to descend, the mouth lay on the pubis, and the examining finger could easily be introduced into it. The occiput did not yet occupy fully the cavity of the sacrum. At this time I heard sounds like the cries of a child whose mouth was muffled by some covering, but not being very distinct, and not being at all prepared for them, I thought, when they ceased, that they must have been produced by flatus in the intestines of the mother. In the course of a short time, however, the cries were repeated, and with the greatest distinctness, so as not to admit of a doubt that they proceeded from the child. The mother much alarmed, inquired the cause of these noises, and required to be assured they were not indicative of any danger. The pains being brisk, the head was soon forced down and expelled. The child was a female, and is still alive and thriving. This case appears to me so curious, though easy of explanation, when the position of the mouth is considered, that I am induced to draw up this notice, not having met with any thing similar on record, and as it is entirely different from the incredible stories we have of the fœtus emitting cries before the commencement of labour."—*Ed. Med. and Surg. Journ. Jan.* 1830.

74. *Poisoning with Acetate of Copper.*—A lace-worker, twenty-six years old, of a very melancholic tendency, and who had attempted to destroy himself with the water-hemlock five years before, put eight *sous* pieces into a glass of strong

vinegar, and left them there for seven days. At two o'clock of the afternoon, having made a good dinner, he drank first one-half, and then in fifteen minutes the remainder of his potion. Not content with this, he washed the coins in more vinegar, brandy, and aniseed water, all of which he also swallowed. Three hours afterwards he was found insensible. The muscles were violently convulsed; the limbs in the intervals of the convulsions were stiff, the teeth set, the breathing interrupted, the pulse small, hard, and very slow, the pit of the stomach tender on pressure. With difficulty he was made to drink some glasses of hot water, which, however, did not make him vomit. In half an hour he recovered his senses, and told what he had taken. The white of eggs was immediately given in large quantity. The convulsions afterwards ceased rapidly, but he continued to hiccup till two in the morning. Next morning the pulse was full, slow, and intermitting: the belly drawn in, hard, and very painful on pressure; the skin pale; the convulsions partial and transient. Leeches were directed to be applied to the abdomen, and afterwards poultices; at the same time the white of eggs were persevered in; and the warm bath, with mild opiate injections were used. In the evening he had colic, dyspnœa, great agitation, hiccup, and a hard contracted pulse. The leeches were repeated. The urine at this time was scanty and scorching. He passed an indifferent night, but next morning was easier. The abdomen was not tender, the pulse was soft, and the urine was natural in quantity. In fourteen days after his admission he was dismissed cured.—*Revue Médicale, Sept.* 1829.

75. *Determination of the Period that a Drowned Body has been in the Water.*—As the means of ascertaining, very nearly, the time which a dead body has been under water, may prove in some cases to be important in a judicial investigation, M. ALPH. DEVERGIE was authorized by the prefect of Paris, to observe and open the subjects deposited at the Morgue, a place to which all bodies are brought that have died by unknown means, or which are found in the public places of that city or in its neighbourhood. The number annually brought there is about three hundred.

After much investigation, M. A. Devergie assigns the following characters as the means of deciding the length of time the body has been submerged, supposing the weather to have been cold.

1. From three to five days.—Rigidity of the corpse; coldness, no contraction of the muscles by electrical stimulus; the epidermis of the hands beginning to whiten.

2. From four to eight days.—Suppleness of all the parts; no contraction from electricity; colour of the skin natural; epidermis of the palms of the hands very white.

3. From eight to twelve days.—Flaccidity of all the parts; epidermis of the backs of the hands beginning to whiten; face softened and presenting a wan appearance, different from that of the skin of the other parts of the body.

4. About fifteen days.—Face slightly swelled; red spots; greenish tint of the middle of the sternum; epidermis of the hands and feet totally white and beginning to fold.

5. About one month.—Face red, brownish; eyelids and lips green; breast reddish-brown and greenish in front; epidermis of the hands and feet white, loosened and folded as if by poultices.

6. About two months.—Face generally brownish and swelled; hair rather loose; epidermis of the hands and feet in a great degree detached; nails still adherent.

7. Two months and a half.—Epidermis and nails of the hands detached; epidermis of the feet detached, nails still adherent; in females, redness of the subcutaneous cellular tissue of the neck, of that which surrounds the trachea and organs in the cavity of the breast; partial saponification of the cheeks, of the chin, superficies of the breasts, groins, and anterior part of the thighs.

8. Three months and a half.—Destruction of part of the scalp, eyelids, nose;

partial saponification of the face, superior part of the neck and groins; corrosion and destruction of the skin on various parts of the body, epidermis of the hands and feet completely removed; nails gone.

9. Four months and a half.—Almost total saponification of the fat of the face, neck, groins, front of the thighs; commencement of a calcareous incrustation upon the thighs, and a saponification of the anterior part of the brain; most of the skin opaline; loosening and destruction of almost the whole of the scalp; scull bare, beginning to be very friable.—*Annales d'Hygiene publique, October,* 1829.

CHEMISTRY.

76. *Chemical Constitution of Acetic Ether.*—By a series of experimental researches, M. Planiava has arrived at the conclusion, that acetic ether is formed of one equivalent of acetic acid, and two equivalents of alcohol; that therefore it is a sub-acetate of alcohol, and is represented by the No. 97.—*Kastner's Archives.*

77. *New Proximate Principle from Albumen.* By M. Couerbe.—White of egg was left to itself at a temperature of 17° or 18° F. It did not congeal, but thickened a little, and at the end of a month gave an abundant membranous network and a liquid matter, no putrid gas having been disengaged. The liquid was slightly examined, and by its decomposition gave carbonate of ammonia; hence it was concluded that the liquid contained the animal part of the albumen.

The membranous substance was white, translucid, and of a foliaceous structure, insipid, inodorous, and friable. Heated in a tube, it did not fuse, but was decomposed, swelling at the time, evolving no azoted products, but leaving a voluminous light charcoal difficult to burn. When decomposed by oxide of copper, it gave only water and carbonic acid. In cold water it did not dissolve: in boiling water it softened, melted, and looked like insoluble mucilage. Alcohol, ether, and acetic acid exerted no action upon it, hot, or cold. Sulphuric acid exerted little action at common temperatures; but by heat carbonized it, evolving an agreeable aromatic odour. Nitric acid acted but little when cold, by heat dissolved it, evolving nitrous gas. Muriatic acid dissolved it when heat was applied, and the solution remained clear on cooling; by dilution, a fine white powder was deposited.

Potash, with heat, dissolved it, and rendered the solution turbid, but did not cause any deposition in twenty-four hours.—*Annales de Chimie, Vol. XLI.*

78. *Preparation of Urea.* By M. Henry.—Let a slight excess of the sub-acetate or the hydrate of lime be added to recent urine; a precipitate will fall which will contain salts formed by the union of the acids in the urine with oxide of lead, and also a combination of the mucus and animal matter present with the hydrate or subsalt used.

The clear fluid is to be acted upon by diluted sulphuric acid, added until in slight excess, to separate the lead present, and to act, during the future evaporation, upon the acetates of soda and lime which may be formed. The liquid is again to be freed from the precipitate, and quickly evaporated, animal charcoal being added to it during the ebullition. When clear the fluid is to be strained through a fine cloth; and concentrated to one-third of its bulk; on cooling, it will probably become a yellowish acicular crystalline mass, consisting of much urea and some salts. The crystals, when drained and pressed, are to be added to those produced by evaporating the mother water, also similarly treated; being thus freed from the brown viscid matter which previously accompanied them, they are to be treated with a small quantity of carbonate of soda, to decompose any acetate of lime which may remain, and then are to be digested in alcohol. The solution, filtered and distilled, leaves urea, which may be recrystallized by solution in water and evaporation.—*Journal de Pharmacie, April*, 1829.

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79. *Preparation of Hydriodic Ether.*—M. Serullas proposes the following process for obtaining this compound:—put into a tubulated retort, iodine, 40 parts; alcohol, 100 parts; phosphorus, 2½ parts. The latter is to be added in small fragments, and the retort is to be shaken; the distillation is to be continued nearly to dryness; then stopping it, add 25 or 30 parts of alcohol, continue the distillation, and cease at the same point as before. Water being added to the product, the ether is immediately separated and sinks; it is to be washed in the usual way, and redistilled from some fragments of calcium.—*Philosophical Magazine, Jan.* 1830, *from Schweigger's Annals.*

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80. *Means of Detecting Hydrocyanic Acid.* By M. Orfila.—Pure hydrocyanic acid, either anhydrous or hydrated, is best detected by its odour, which is analogous to bitter almonds, or by the nitrate of silver, which acts on this acid in a way not heretofore understood. When this salt is added to a mixture containing the smallest quantity of the acid, it throws down the cyanuret of silver in the form of a white curdled precipitate, heavy, insoluble in water, and very nearly so in cold nitric acid; but very soluble in boiling nitric acid, and in ammonia; it has very little tendency to change to violet, is decomposed by heat and exposure to the air so as to furnish metallic silver and cyanogen: the gaseous cyanogen being easily recognised by its burning with a purple flame; the cyanuret of silver need not be confounded with any other substance. The test proposed by M. Lassaigne, the deuto-sulphate of copper with a small quantity of potass, has the inconvenience of affording a whitish precipitate that may be confounded with many other substances; whilst the per-sulphate of iron, added to a mixture containing hydrocyanic acid, to which a little potash and sulphuric acid has been added, produces a blue precipitate, (Prussian blue;) not so sensible, it is true, as M. Lassaigne's test, but more satisfactory.

If the mixture to be examined be so coloured as to furnish brown precipitates with the nitrate of silver or the per-sulphate of iron, then a slip of white paper, previously impregnated in a solution of pure potash, is to be immersed into it for two or three minutes, withdrawn and dried. If a few drops of the trito-sulphate of iron, dissolved in a small quantity of water be dropped on this paper, the parts touched will immediately assume a blue, verging on a green, should it be impregnated with the hydrocyanate of potash.—*Archives Générales, July*, 1829.

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81. *Analysis of Bile.* By Henry Braconnot.—From the uncertainty which still hangs over the composition of this fluid, so important in the animal economy, this able chemist has been induced to examine afresh, the matter which constitutes the essential portion of ox-bile, viz. the picromel. His memoir, which occupies twelve pages of the Annales furnishes the following results.

I. That bile is a true soap, as the ancient physicians had determined. II. That the picromel of the ox contains:—1. A peculiar acid resin, which forms the greater portion of it. 2. Margaric acid. 3. Oleic acid. 4. An animal matter. 5. A very bitter substance, of an alkaline nature. 6. A colourless saccharine principle, which becomes purple, violet and blue, by sulphuric acid. 7. A colouring substance.—*Ann. de Chim. Oct.* 1829.

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82. *Discovery of a New Principle in the Root of the Caïnca.*—M. Caventou communicated to the Academy of Medicine, at their sitting of the 12th of September last, that he had discovered in the root of the caïnca a peculiar principle, very bitter, white, crystallizing in the form of needles, soluble in alcohol and the alkalies, and reddening the tincture of tournesol. He thinks that M. Brandes is deceived in believing that there exists in the caïnca a substance

analogous to emetin. M. Caventou has also found in this article another substance very white, very little soluble in water, unless a little ammonia be added to it; it appears in gelatinous, trembling masses, resembling pectic acid.—*La Clinique, Vol. I. No.* 14.

MISCELLANEOUS.

83. *Mortality of Paris.*—The bill of mortality for Paris, during 1828, like that for the year preceding, presents, according to a classification of deaths founded on their causes, the exact amount of mortality in each arrondissement and quarter, both in the city and in the various hospitals in its vicinity. That the influence of local causes may be better understood, particular care has been taken to separate the deaths of those that had resided in Paris only a few days, and who had consequently not been subjected to them.

To the amount of deaths in each district produced by phthisis pulmonalis, those produced by pulmonary catarrh have been added, and this view seems to show that the same causes tend to produce the two diseases at different periods of life: for in all the quarters presenting the greatest mortality from consumption, the number of deaths by pulmonary catarrh are also greatest.

The whole amount of deaths for the year 1828 is 24,299: in 1827 it was 23,241, which affords an excess for 1828 of 1058. In this total number there were 11,440 deaths of males, and 12,859 of females.

In the classification of deaths according to the order of their most frequent causes, we find as usual pulmonary consumption at the head of the list. There perished by it 1153 males, and 1526 females. The periods of life when this disease has had most victims were from fifteen to forty-five with females, and twenty to thirty-five with the males. Chronic pulmonary catarrh, which we associate with phthisis, has destroyed 688 men, and 851 women, most of whom were swept off between the ages of fifty and ninety. Under the head of gastritis, the deaths amount to 922 males and 1124 females; whilst under that of enteritis, they amount to 1018 males and 1122 females. These two diseases have been particularly fatal during the first years of life. Of peritonitis there died 141 males and 407 females. With the first the mortality was greatest from the age of fifteen years and upwards; but with the women, from fifteen to forty-five. Inflammation of the brain and that of its membranes proved fatal to 254 males and 206 females, the greatest number of which died in the three first months of infancy, and in the period between the fifteenth and seventieth years. 1042 males and 1169 females fell victims to inflammation of the lungs, from the age of fifteen and upwards, and especially in the three first months and during the three first years. Apoplexy occasioned death in 477 males and 430 females. Scirrhus, cancer, and chancrous ulcerations, proved fatal to 174 males and 541 females, these diseases having been most destructive from the age of thirty and upwards. Aneurism of the heart proved mortal to 223 males and 286 females, of the age of twenty years and upwards.

The deaths by fevers presented the following order: Cerebral fever carried off 339 males and 340 females, most of its victims having been between the sixth month and sixth year; the fever called malignant, (or ataxic,) 97 males and 95 females; putrid, (or adynamic,) fevers, 90 males and 91 females; the fever called bilious, 65 males and 54 females. It thus appears that the proportion of sexes in which these fevers proved fatal was nearly equal, whilst the greatest mortality was from the fifteenth year and upwards.

Among the diseases to which infancy is most subject, convulsions proved fatal to 889 boys and 852 girls, most of whom were in the three first months of life, or from one to four years of age; teething, 154 boys and 161 girls; measles, 120 boys and 202 girls; small-pox, 85 boys and 35 girls; hooping-cough, 78 boys and 82 girls; croup, 77 boys and 75 girls. The number of premature births and dead-born, was 682 males and 564 girls; and those which have fallen victims to debility during the three first months amount to 215 boys and 298 girls.

An examination of this exposition of the principal causes of mortality shows us, that phthisis, pulmonary catarrh, enteritis, gastritis, and inflammation of the lungs, present themselves in the first rank, having occasioned nearly four-fifths of the whole mortality. Phthisis and pulmonary catarrh have still, as in preceding years, selected most of its victims from the female sex; and the same observation will apply to cancerous affections and peritonitis.

With infants the most fatal diseases have been convulsions and measles. The small-pox has carried off nearly twice as many males as females, a disparity which is doubtless explained by the fact that parents have less regard for the beauty of their boys than their girls, and are thus less particular in having the former vaccinated. The number of deaths by small-pox has nevertheless diminished, which shows that the prejudice which has opposed the spread of this happy preservative is daily yielding before the multiplied proofs of its efficacy. —*Raport Général des travaux du conseil de salubrité de la ville de Paris, pour l'année*, 1828. *De Molcons Recueil Industriel.*

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84. *Mortality in the Different Classes of Society.*—M. DUMERIL, at the meeting of the Academy of Medicine, August 3d, made a very favourable report of a memoir of M. Benoiston, de Chateau-neuf, on this subject. The principal results obtained are, that the mortality is greater among the poor than among the rich, and the duration of life increases in mountainous countries. M. B. has observed six hundred persons in high classes of society, as sovereigns, peers of France, cardinals, ministers, &c. during a period of eight years; and during this period, one hundred and forty-one have died, or nearly a fourth. Analogous observations made on poor inhabitants of the faubourg St. Marcel give a mortality almost double.—*Archives Générales, Nov.* 1829.

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85. *Vaccination.*—It is stated in the *Journal Universel* for July last, that Dr. BARRES, Jr. of Bordeaux, vaccinated a child three years of age, making four punctures, from which no effects resulted until about two months afterwards, when two genuine vaccine pustules were developed, from which other children were successfully vaccinated.

AMERICAN INTELLIGENCE.

Case of Ozena cured by the use of Chloride of Lime. By W. E. **Horner**, M. D. Adjunct Professor of Anatomy in the University of Pennsylvania.—The acknowledged difficulty of curing ozena or chronic purulent discharge from the nostril, makes this disease in the estimation of experienced surgeons one of the most untractable that they are called upon to treat. Mr. Boyer, after most extensive opportunities, admits that it is absolutely incurable, and this opinion is sustained by other persons of equal celebrity, among whom I may mention Dr. Physick. Under these circumstances, even a partial observation of a remedy entirely successful, may be considered worthy of attention, and subsequent trials will tend to establish how far it may be relied upon in cases generally.

In October, 1828, Luke Johnson, a black man, aged about thirty, of good constitution, was brought from Virginia by his master to be placed under my care for ozena. At this period there was a large discharge of intolerably fœtid matter from both nostrils, most abundant in the morning after waking; his nostrils were then filled with it, and on blowing them, immense quantities would be discharged, part being in a fluid purulent state, and the remainder dried into tenacious yellow plugs; during the night much of this matter ran into his throat, and by its offensiveness produced severe sickness of the stomach, and sometimes a loss of appetite the next day. The discharge also existed during the day, but as he could then keep his nostrils clear of an accumulation, he suffered less at that period. He occasionally had head-aches, especially when the quantity of the discharge diminished.

The following statement in a letter dated Sept. 16, 1828, from his attending physician, the late Dr. Spence, marks the progress of his complaint, and the mode of treatment which had been resorted to. "Luke Johnson has for a long time laboured under a distressing pain in the head, and particularly in the frontal sinuses, with a discharge of offensive matter from his nose. He has not long been a patient of mine; all the remedies he has used have been unavailing. About three years since he first complained of pains in his head, which he ascribed to sleeping in a damp cellar. A short time before I took my last trip to your city, (August, 1828,) I was consulted on his case. He then complained of severe pains in the frontal sinuses, accompanied with a discharge of very offensive matter from both nostrils. He had taken a variety of medicines, chiefly, I believe, of a purgative nature, without benefit; and he was a good deal reduced in flesh. As he had a thick mass of hair on his head, I directed it to be cut off, applied blisters to his forehead, and put him on an alterative course of mercury combined with a small portion of opium. When his gums became affected, I advised him to leave off the mercurial pills. This course he had commenced before I left Dumfries, and since my return he has informed me his mouth had been sore; the blisters had drawn well, but without affording him relief. He also used a weak solution of sulph. cupri as a detergent wash, which he thought beneficial, as it caused a free discharge of pus from his nose; for when this discharge is checked he is almost distracted. He is a man of great veracity, and assured me he never had had any syphilitic affection."

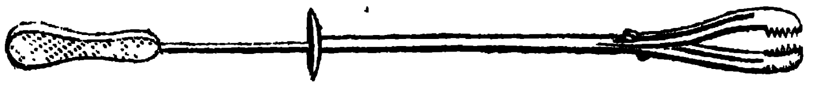
Despairing in this case of the efficacy of the usual routine of practice, I determined to begin at once with the application of a solution of chloride of lime. Dr. Physick's advice being also taken, with his characteristic candour, he acknowledged the inefficacy of such remedies as he had been in the habit of using, and he readily acquiesced in the plan of treatment proposed. I accordingly began by putting about a tea-spoonful of the chloride of lime in a wine-glassful of water, and I injected each nostril with the clear solution. This process was repeated twice a day for a week. During this time it produced no important diminution of the discharge, but it made the patient more comfortable by correcting the fœtor. At the expiration of the week, Luke went home with directions to persevere in the treatment. The sequel will be seen in the following communication to me from Dr. Thomas M. Boyle, dated Dumfries, Virginia, April 13, 1830.

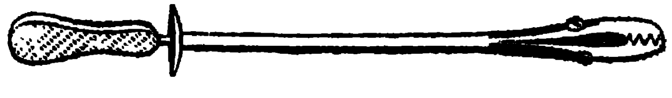
"On my return home, in conformity to your request I called on your patient, negro Luke Johnson. He stated that by the use of the chloride of lime, as recommended by yourself, *his nasal affection was entirely cured in December last.* Since then his general health, which before did not suffer much, has been remarkably good."

I may further state, that since the occurrence of this case, the chloride of lime has been used with evident advantage, in another of a year's duration, where the affection is confined to one side; but the treatment has not progressed far enough for a positive and satisfactory result. In this case the application of the lime by snuffing is followed instantly by a discharge of several drops of serum; afterwards, pure transparent mucus is secreted abundantly for the remainder of the day, attended with frequent sneezing and all the local symptoms of influenza, with a perfect arrest for the time of purulent discharge. The nostril is caused by the application to bleed frequently; this circumstance has made me hesitate in the regular application of the remedy. I have also prescribed it in a very severe case of three years duration, and on both sides, but of the result I am not yet informed.

As cases of ozena do not frequently occur in the practice of an individual, I trust that this suggestion of chloride of lime as a remedy will be candidly tried by others, and their experience communicated. We have some accounts of its being used successfully in caries of the bones of the nose, which will be an additional incentive to a fair experiment of its value, in chronic purulent discharge from the nostril.

New Bullet Forceps.—This ingenious instrument is the invention of Mr. William Jones Madeira, of Chambersburg, Pennsylvania, student of medicine. It consists of a canula which is divided at one extremity so as to form two forcep blades, the ends of which are toothed; at the other extremity it terminates in a button. Through this canula a rod passes, at one extremity of which is a handle, and to the other two screws are attached, one each side; the shaft of the screw passes through a groove in each blade of the forceps, this groove being of such a size as not to permit the passage of the head of the screws which are on the outside of the blades. The blades are bent, so that when the rod is drawn down, they separate; when the rod is pushed up, the blades are drawn together by the heads of the screws attached to its extremity. The instrument is so simple and so well represented in the accompanying drawings, which afford two views of the instrument, one with the blades open, the other with them closed, that it will be at once understood, without any further description. It is incomparably the best bullet forceps that we have seen, and will be useful for several other purposes in surgery.





Fracture of the Coronoid Process of the Ulna. By WILLIAM M. FAHNESTOCK, M. D.—This is an accident of rare occurrence: the only instances we have noticed on record, came under the care of Dr. PHYSICK and Sir ASTLEY COOPER. A boy, living with Major Benjamin, of Harrisburg, fell from the hay-mow, and received the whole weight of his body on the back part of the palm of the left hand, whilst the arm was extended forwards, by which impulse the coronoid process of the ulna was displaced, and presented the appearance of a dislocation of the forearm backwards, but which on being reduced would be repeated, attended by an evident crepitation. Assisted by my preceptor, the late Dr. Martin Luther, the fracture was adjusted, and secured in the angular splints of Dr. Physick, and recovered very speedily.

Fracture of the Condyles of the Os Humeri. By WILLIAM M. FAHNESTOCK, M. D.—Nathan, son of the Rev. H. P. J. a boy eight years of age, while playing with his school-fellows, June 18th, 1824, was thrown with considerable force against the edge of a rock, then fell upon the arm and forced it into a fissure, by which the condyles of the os humeri were fractured and separated, leaving a very sharp pointed shaft, which partially penetrated the anterior part of the capsular ligament. The usual dressings were applied, and after the bones began to unite, the whole apparatus was daily removed to exert gentle flexion and extension, which was gradually increased, and after six weeks attention, recovered with the perfect use of the joint.

We believe from the above case, that much more might be effected in cases of injury of the joints than we usually anticipate, by early and long-continued perseverance in removing the dressings, and giving judicious extension to the member. The great error we believe to be delaying the flexion and extension to too late a period, and we have not the least doubt that anchylosis and permanent deformity were avoided, by commencing the exercises of the limb a few days after the reduction.

Dengue.—We have endeavoured to keep our readers informed of all the facts in relation to this curious epidemic, which has excited so much attention, and with regard to the character and best mode of treatment of which, so much diversity of opinion prevails. In the *Edinburgh Medical and Surgical Journal*, for January last, are two papers on this disease, one by W. H. Cock, M. D, giving an account of the disease as it occurred at St. Bartholomews, the other by John Furlonge, M. D. describing this affection as it appeared at St. Johns, Antigua. We find nothing new in the accounts of either of these writers, and shall only observe that the first considers the disease contagious, and propagated by contagion, and that the other entertains the opposite opinion. WILLIAM R. WARING, M. D. of Savannah, has published in the *North American Medical and Surgical Journal*, for April last, a memoir on this subject, in which he presents the most satisfactory and lucid views of the pathology of this disease that we have met with. "The pathology of Dengue," says Dr. Waring, "consisted in primary irritation of the mucous membrane of the stomach or of the stomach and intestines. The accelerated efforts of the heart, the inflammation of the skin and joints, I consider to have been sympathetic revulsions, and secondary. The gastric irritation did not at all times perceptibly precede the secondary affections, as in pleuritic fever, where the stitch under the ribs and the febrile movements of the heart which result from it, seem to be concurrent, without being so in reality. But in almost all cases, the incipient irritation was manifestly, as well as truly, antecedent to its effects. The patient was first affected as in ordinary autumnal fevers, with the same predisponent symptoms which are now generally understood to be indicative of the gastritis initiatory of that disease; such as sense of universal indisposition, indigestion, loss or excess of appetite, nausea, chilly sensations, erratic uneasiness, head-ache, constipation, foul tongue, and foul taste. The similitude did not stop here. After the predisposition was passed, and especially if the pains were moderate, which sometimes happened, it continued into the febrile paroxysm; so that the distinction could not be affirmed, until the eruption had been developed. I remember the case of a gentleman who had exposed himself in the country on an excursion to his farm. He was violently attacked with every symptom of common fall fever; a chill, numerous pains, distress in the loins, abundant vomitings of bile, and an intense fit of arterial excitement. I was satisfied that this was a bilious gastritis contracted from the miasma of a marsh, and did not discover my mistake until the skin became inflamed. Hence I am permitted to consider dengue as based in gastric or gastro-enteritic inflammation, for as good reasons as I attribute our annual remittent to that origin. The first morbid impression having been made in the mucous membrane, the system underwent what the nosological gentlemen call a collapse. This, as in every form of fever, was the period of greatest suffering to the patient. About twelve hours having elapsed, a centrifugal revulsion took place, the internal oppression decreased, while the external excitement proportionally increased; the vascular action was altered. The pulse became full and soft, skin permanently warm, cheeks flushed, eyes red, general distress moderated, the pains confined and riveted to the joints. In a short time the efforts of the heart relaxed, the heat lessened, and an eruption was thrown out. The primitive irritation had evidently undergone a transposition by a critical act of the superficial capillaries and parts appertaining to the joints. The patient now commenced to convalesce; he got out of bed with difficulty, and moved about stiffly and contorted. The disorder which had been excited in the stomach remained in some cases for a length of time in a subdued or subactive state; but for the most part it went off, particularly in young persons, gradually and entirely.

"As it was very soon understood that the disease passed away in a great measure by irritation of the skin, some persons attempted to drive it into this part by the obsolete method of administering stimulant substances during its progress. These attempts, instead of expelling the gastritis, augmented it; they operated as such a course is known to do in the contagious exanthemata. I have seen what ought to have been a simple erythema exalted into an erysipelas, thickening the skin, descending and bloating the cellular tissue beneath, and yet without curtailing the fever in the least degree by these pernicious effects. I have reason to think, moreover, that this kind of treatment, pursued even after the regular subsidence of the active symptoms, was sometimes the efficient cause of certain cases of relapsed dengue under a distinct form. These cases were serious or deadly, and assumed the aspect of bilious fever, yellow fever, dysentery, or acute pneumonia, without evincing the external or secondary irritations at all. The limbs and skin refused to participate in the disease, and by defect of the counter-excitement, of which they ought regularly to have been the seat, was occasioned, or intermediately established the aggravated violence which characterized them. But the direct propellant was the operation of undue excitants upon parts still morbidly irritable, or still actually inflamed. The secondary were swallowed up in the primary affections, as in small-pox, measles, erysipelas, where the cutitis has receded, without passing through the regular stages. The exanthemata are mild diseases, by the circumstance of being exanthematous; the inflammation of the skin makes them so. But when by accident or imprudence, the establishment of the eruption has been thwarted, or, after the establishment, it has been prematurely removed, they are understood to be among the most mortal maladies to which we are subject. Under such circumstances, I know nothing to which they may be more pertinently compared, than an explosion of gunpowder within a barrel, having its muzzle closed. The expanded air bursts the implement, because it is not permitted to escape. The following is the history of a case of this non-eruptive dengue.

"H., a black, aged twenty-two years, short, well-built, healthy, a native, was seized 6th of October, 1828, with the ordinary symptoms of dengue, which at the same juncture was prevailing among the family and servants of the house. No restrictions were enforced upon the habits of this patient, as no danger was anticipated, and it was expected he would immediately, and without difficulty, pass through the disease, as every one was doing at the same period. Several days had elapsed, no eruption appeared, the pains subsided; but it began to be perceived that the case assumed serious and unusual symptoms. A physician was then sent for. No diary of the incidents was kept, though they were as accurately sketched as practicable after death took place, and were as follow:—During the first days after the adverse change, fever of a double tertian type, the principal paroxysm always beginning with a chill, nausea, and discharges of bile upwards and downward; conjunctiva, skin and urine tinged with bile; last three days, obliteration of the remittent forms, cessation of nausea and vomiting, evacuated urine but once, and in small quantity, harassed by constant hiccup, amounting sometimes to cramp; pain of lumbar region, which was intolerably aggravated by pressure of the hand; till thirty-six hours before death pulse vigorous but slow; intellect good to the last. In consequence of great intestinal irritability, slimy evacuations were procured, at first by very minute doses, at the last they became abundant without the aid of medicine. Treated with oil, sinapisms, blisters, and diluents. Took evening before death a small quantity of sub-carb. soda, which he said burned his stomach. Death took place on the eighth day from the commencement.

"Examination post mortem. Contents of thorax sound; but pushed into the upper parts of the cavity by excessive convexity of the diaphragm. Liver large, slate-coloured; when cut it bled freely; was attached peculiarly: instead of being fixed in the right hypochondrium, it adhered to the diaphragm at the epigastrium, as if dislocated from the side to the middle; it was lodged in the centre of the cup of the diaphragm, and occupied a great portion of the cavities of the chest. This elevated position in the chest will not be attributed to accidental fulness of the bowels, or constriction of the abdominal muscles, but to natural deficiency of space in the chamber of the abdomen, and greater expansion of the ribs than is usual. The whole abdominal contents were thus pressed upwards by the abdominal walls, so that the outward figure presented the appearance of having been tightly corseted. The gall-bladder contained some dark viscid bile, but was not filled as it is usually in cases which are exclusively bilious. The mucous membrane of the stomach, duodenum, and small intestines was inflamed; on holding it up to the light and stretching it, innumerable vessels were seen injected with blood, and ramifying through it. These branches were more abundant about the rugæ than elsewhere; the number decreased in descending through the intestinal tube, but were quite numerous in both jejunum and ileum. The spleen presented the natural size, but was soft and muddy. Pelvis of right kidney inflamed; substance of left kidney altered, appearing and cutting like cartilage; its pelvis inflamed, almost obliterated, and containing a thin purulent fluid. I should think it had ceased to secrete. Bladder sound. Neither the stomach nor intestines contained any bile.

"I consider this case to have commenced in fact after the subsidence of regular dengue, and as divided into two parts:—the bilious, in which irritation of the liver was conspicuous, and intense gastro-enteritis, in which that irritation seemed to be suppressed. The former constituted the first, and the latter the second stage of the case. As the gastro-enteritis increased, the bilious secretion and periodicity of the first disappeared. The gastro-enteritis did not reach the intense degree which effects the black exudation from the mucous membrane, as in yellow fever, though it bordered upon it; nor was the liver in the dry and bloodless condition which it usually assumes, though the suppression of the bilious secretion evinced that it was tending towards it. This case presented indeed a curious blending of the symptoms and anatomical derangements which I have so frequently observed appertained to both the yellow and bilious fevers of this city. The gastro-enteritis appears, in the first instance, to have been slight, but sufficient to kindle in the liver an irritation more impetuous probably than itself, and an activity of the secreting vessels which filled the whole body with bile: it afterwards increased, and swallowed up the hepatic irritation which it had produced, as happens in nine cases out of ten of black vomit. Such were the ravages which seem to have arisen from what ought to have been but simple dengue, by its reflection upon vital organs, or its retrocession from external parts. Had the joints and skin been permitted in this case to be inflamed, it would probably have terminated in prompt recovery, as happened invariably when the disease was conducted through its proper course. The violent alteration which took place in its character, it is to be supposed, resulted from the careless self-management of the patient, in conjunction with a peculiar susceptibility of excitement in the vital parts affected.

"As no case of regular dengue terminated mortally, it is not in my power to furnish any example of the morbid anatomy of its simple state, and to demonstrate, through this corroborating means, its gastro-enteritic character. Nevertheless, the preceding case just recounted ought to suffice, since it appears to have been different from the original affection in nothing but defect of the external inflammations. It was indeed the original gastro-enteritis rekindled and aggravated, or aggravated without being rekindled, and divested of the secondary or external characteristics. The pathology of dengue thus exhibited, assimilates it curiously to three different diseases of gastro-enteritic foundation, namely, gout, erysipelas, and yellow fever. By inflammation of the joints to the first, by inflammation of the skin to the second, and by absence of both these inflammations to the last. Or, in other words, gout might be considered dengue without eruption, erysipelas a dengue without affection of the joints, and yellow fever a dengue concentrated upon the bowels. Perhaps I could not communicate my view of the disease in any other manner more perspicuously than I have thus ventured to do by this threefold comparison.

"If I were required to explain why dengue, being a gastro-enteritis, complicated the skin and the joints, it is quite possible, however well sustained I might be in the facts, that I should not do it with perfect success. That it was owing to the direct operation of some peculiar property of atmosphere upon the organs, or to some peculiar relative condition of sympathics impressed by climate, and circumstances, there can scarcely be any doubt. The specific sympathies excited by medicines which are first made to act on the stomach, is a profound mystery. The different sympathies excited by the same medicine, in different constitutions, is just as much so. Physiology is too imperfect to serve us in this recondite matter. In the same manner, inflammation of a part by one agent shall elicit specifically effects in other parts, which inflammation of the same part by another agent shall be incapable of producing. And what is still more remarkable, an inflammation effected by the same agent, at different times, will often, even in the same subject, give rise to different secondary results. Thus we have a sympathetic phenomenon depending on direct and specific powers of the agent, and another arising out of the state of the organs, both of which are capable of characterizing the form of epidemic disease. These phenomena are well known, and are admitted, I believe, among the best settled principles of pathology and therapeutics. Now, the sympathies or secondary affections in dengue, are obviously attributable to one or the other, and, it is possible, to both. They were produced by primary irritation of the same parts precisely, which, in other seasons, have given birth to yellow or bilious fever. But whether through the first or the last, or through both principles, it would be temerity, perhaps, to decide positively. At the same time, then, that I maintain the certainty of the pathological origin, and the difficulty of assigning any reason beyond analogy for its results, I am disposed to think that the most probable cause of those results was permanent predisposition of a novel character, and not a specific poison. I am strengthened in this impression, by the fact of the constant successions of cutaneous disease, to which we have been subject for some time, without regard to varieties of season or temperature.

"The convalescence from dengue furnished additional facts in confirmation of the opinion that it was radically a gastro-enteritis. In many instances this was interrupted by transient relapses of pain at the joints, with or without fever. They proceeded from exposures to inclement weather, or from wrong diet, but generally from the latter—as luxurious compositions, wine, porter, acids—which the stomach could not digest, or which produced unwholesome degrees of excitement. I knew a person who could not indulge in the use of oranges or limes, and another who could not take a few glasses of Madeira wine, without incurring, on the succeeding day, indisposition, with foul tongue, and repetition of rheumatic pain. I knew, also, an old lady who suffered long from numerous relapses of a slight nature, in consequence of persisting to introduce into her stomach dainty articles of food—resorting to spices and pepper for condiment, and using ardent drinks for sudorific effects. By my advice she abstained from this course, took a few doses of castor oil, and soon recovered from every remnant of disease. During my own convalescence, a few ounces of wine, or any rich species of diet not promptly digestible, irritated the bowels, and immediately occasioned a return of stiffness, pain and feverish sensations. These recurrences of disease at the exterior, by obvious irritation of the mucous membrane from direct applications of stimulating substances to its surface, appear to me to place the pathology which I am defending, in a still more lucid point of view.

"I have said that dengue was essentially the breakbone which we had experienced in 1826, and also in 1827. The analogy was so striking, that I do not believe we should have called it by another name, if it had not appeared in some other southern cities at the same time. The points of resemblance were, the universality of both diseases, the same gradual progress by which the entire population became involved, excruciating pain of the limbs and loins, the same species of cutaneous inflammation, singular violence, and short duration of both, their common characteristic of forming but one paroxysm, red injection of the vessels of the conjunctiva, uniform recovery. On the other hand, the dissimilitude consisted in longer continuance of pain in dengue than breakbone, more exclusive confinement of pain to the joints, less debility, and less tediousness of convalescence. The differences were few, in comparison with the resemblances, and will be considered as unimportant. These may have arisen from slight variations in the circumstances of climate, in the same manner as trivial discrepancies sometimes occur between bilious endemics of different autumns, or as they take place at different epochs between any epidemics whatever, that are unquestionably the same.

"During the first stage of breakbone, it assumed so perfectly the aspect of yellow fever, that in 1827, when cases of each were occurring at the same period, it was difficult or impossible, as already observed, to distinguish them. Both presented the red suffusion of the conjunctiva, and the red lips; and consisted generally of one paroxysm only. The degree of pain incident to the former was commonly greater, but the difference did not invariably happen; the rest of the symptoms accorded in a manner curious and surprising. You could trace the career of two contemporary cases from commencement to termination. At first the correspondence would be complete, and each would seem to be proceeding to similar conclusions, when, abruptly, and without perceptible cause, the one appeared to sweep the disturbances it had excited into the stomach, and ended in black vomit, while the other precipitated itself upon the skin, and eventuated in a fugitive inflammation. Both breakbone and black vomit were indeed in the original essentially the same morbid affection, for both were equally gastro-enterites. The former differed in its event from the latter, because the critical effort of the skin and limbs interposed, and afforded effectual relief to the stomach. Without that interposition, we have the strongest reason to think that the progress and catastrophe would have been the same.

"In the course of this season, also, cases of breakbone and black vomit presented the singular circumstance of being mixed with a much greater proportion of remittents and intermittents, but particularly of the latter. These were numerous and generally distributed, while those were sparse and preferred the locality of certain wards. This diversity of forms, evidently arising from a common miasma, is very remarkable, no matter how it be accounted for. The black vomit and breakbone might have amounted to the number of fifty cases. No native I believe died of the former, though several had been residents of long standing, or had passed through the great epidemics of former years. I have recorded among my notes the case of a respectable mechanic, who had resided permanently in the city for a length of time. He had been occupied in superintending the erection of a saw-mill upon the neighbouring low grounds, where it was his custom to spend the day only. If he had contracted bilious fever of a violent grade, it would not have been matter of surprise, as he was subject to the precise causes which produce it. But he sickened with the worst degree of yellow fever, and died of black vomit, a form of disease peculiar to the city, and never generated by marsh effluvia alone, as far as observations made have extended. He imbibed the city disease, against which he might have been expected to be acclimated, and escaped that which pertains to the country, to which defect of habit ought to have subjected him. No one imagined, nor was there ground for suspecting, that either black vomit or breakbone had originated in contagion. Individuals were affected, whose modes of life were such as rendered this impossible. I attended one lady with yellow fever, who had been so constantly confined to her apartment that she could not have contracted it from another. I attended another lady who was a native, but had been an absentee for some years; she was attacked with breakbone, although scrupulously secluded for security against the prevalent diseases, and could not have been infected by personal communication. There was a family of my friends, in which several cases, differing in character, occurred. The gentleman was first taken with chill, and subsequent violent hot fit. During the paroxysm he swallowed an excessive dose of oil, which, together with the disease, considerably reduced him. Nevertheless, a total suspension of fever took place, and he was promptly cured by frequent administrations of sulph. quinæ in 3 gr. doses. This case would probably have assumed the intermittent type if it had been allowed to continue. At the same epoch, a woman, who, in consequence of disordered imagination, had not gone into the street for many weeks, was taken, while labouring under fever, from a neighbouring house, and introduced into this family, to be properly nursed. She complained of pain about the abdomen, particularly in the region of the uterus or bladder, of tenderness at the epigastrium, when pressed upon by the hand; and she seemed to be very nervous. Soon after, the eyes became red, occasional vomiting took place, and some coffee-coloured flocculi were discharged. I considered this patient as affected with desperate yellow fever, and her case beyond remedy; unexpectedly, however, she got well under a treatment with sulph. quin. in exorbitant doses. Before this woman had entirely recovered, the black girl who officiated as her nurse was seized with the excruciating pain, single intense paroxysm, and acquired the injected eye of breakbone fever. By administering some aperient medicine, she recovered completely, but was extremely prostrated. The lady of the family now sickened with fever; the symptoms were such as accompany a common febrile attack, except that the vessels of the conjunctiva were filled with red blood. She suffered with excessive tenderness of stomach, so that scarcely any thing she swallowed was retained. On the third day, the skin became deeply jaundiced, the pulse slow, as when black vomit has made its appearance, and death ensued on the fourth day from the commencement: black matter was said to have been thrown up, but I did not see it, nor could I vouch for it. Immediately after the dissolution of this lady, an attendant black woman contracted fever, and although her case was longer, was divided into paroxysms, and she was more intensely ill, the symptoms exhibited were very similar to those presented in the instance of the black girl's above mentioned. About this period, also, the son of the deceased lady, a boy of five years, was taken with fever; the active symptoms soon subsided into that species of tranquillity which usually attends black vomiting; the eyes became red, and the bowels sensitive when pressed. Instead, however, of ejecting any black fluid from the stomach, that organ remained entirely passive, and large quantities of grumous blood were discharged per anum. The discharge of blood continued for about a week, and the patient's health, although slowly, was finally re-established. After the restoration of this boy, as if the afflictions of the family were destined to be perpetual, a little girl, the sister, was assailed by fever of double tertian type, but she soon recovered under the operation of some mild evacuants. At a residence on the opposite side of the street, and distant a few yards only from that of which we have related the above particulars, another singular group of cases took place. A gentleman, his lady, and two servants, were successively seized with fever. The servants were affected with one long paroxysm, accompanied by pains, which gradually wore off under the influence of castor oil. The lady was attacked with excruciating pain in the left hip, which continued for some hours before the fever appeared. She then had a single hot fit of unusual duration, with pains in other parts of the body, together with inflamed eyes and eyelids, which were all concluded by a transitory eruption upon the skin. This was as true dengue as ever occurred in 1828. The gentleman was soon after taken with fever in the ordinary way, an intense hot fit followed the collapse, but there was no pain except in the head. The eyes were at first irritable and red, but afterwards, in conjunction with the skin, assumed a deep yellow hue. This case lasted four days without manifesting any appearance of periods. I consider it to have been yellow fever complete in every point but black vomit. The jaundice continued for three weeks after the extinction of fever, and probably constituted a critical revulsion, as the eruption had done in the previous case of the lady. Numerous other groups of intermittent, remittent and yellow fever, breakbone or dengue, took place during this season, which it would be needless to recount, but which were decisive of the common and local origin. As regards yellow fever, breakbone and dengue, the remote cause confined itself to the boundaries of the city proper. These began to prevail about the first of September, when north-east winds usually predominate; and terminated under the effect of frost. Not one case is known to have originated upon the plantations; and although some persons after having imbibed them went into the country, it is not ascertained that they propagated them in a single instance. These facts conclusively finish the argument, it appears to me, against the suspicions of contagion or importation. It is curious to observe the propensity of every community to attribute diseases of a novel or grave character to a foreign source, and to cast on others the misfortune of inhabiting the place of their birth. Some time since I was conversing with a gentleman from Cuba on the subject of dengue, and he informed me that it was supposed by the people of Havana to have been brought among them from the windward islands, and that they believed as little in its production there, as the citizens of Charleston appear to believe in its original production among them.

The treatment applied to the epidemics of 1827 and 1828 by a majority of the physicians, was what we consider to be thoroughly sedative. Moderate evacuations with oil or Epsom salts for the limited purpose of emptying the bowels and expelling unwholesome feculences, together with absence from irritating drink and food, constituted the prominent remedies for dengue. They assisted to consummate the critical act by reducing gastric and intestinal excitement; and by precluding reiterated inflammations of the mucous membrane, they removed the chronic pains which sometimes infected the joints. The pathology which has been sustained obviously dictated this method, and the practice confirmed its correctness by the uniform success which attended it. Those who adopted it promptly recovered from the acute attack, and those who persisted in its use while any sequelæ existed, were expeditiously and certainly relieved. At least *two-thirds of breakbone, as well as dengue,* were thus managed, and as far as I am informed, were all terminated well, and speedily as could have been reasonably desired. This course promoted the production of the secondary sympathy of the skin and extremities, by preventing a greater degree of inflammation in the mucous surface than was compatible with its transposition. For it is now a principle well understood, that in the exanthemata, there is a certain point of excitement, which comports with the translation of the disease from the interior to the exterior, and that every *augmentation* or *reduction* of it erects an obstacle to this result.

Philadelphia Medical Society.—The annual oration this year was delivered by **Benjamin H. Coates, M. D.** one of the Corresponding Secretaries of the Society. The subject chosen by the orator was the certainty of medicine, which he treated with his usual ability.

Charge Addressed to the Graduates in Medicine, at the Commencement of the Medical Department of the Columbian College, D. C. By **Thomas P. Jones, M. D.** Dean of the Medical Faculty.—We have read with much pleasure this interesting discourse—it is appropriate to the occasion, and the monitions which the author offers are wholesome and judicious.

Coxe's American Dispensatory, eighth edition, has just been published by Messrs. **Carey & Lea.**

Horner's General and Special Anatomy.—Messrs. **Carey & Lea** have just published a new edition of this valuable work.

Macculloch on Remittent and Intermittent Diseases.—The cost of English works are generally so high, as to prevent their general circulation in this country; the price of the English edition of the work at the head of this notice is twelve dollars. As we believe that Dr. Macculloch's essay contains many original and valuable views, we congratulate the profession that it is now placed within their reach, having been republished at a moderate price, by Messrs. **Carey & Lea.**

Memoir on the Treatment of Venereal Diseases without Mercury, employed at Val-de-Grace. By **H. M. J. Desruelles.**—No work on syphilis has appeared in this country, *au courant,* with the present state of knowledge in relation to that disease; it affords us pleasure therefore, to announce that a translation of the memoir of M. Desruelles will shortly appear. This memoir has been, we think, justly lauded in the French journals; it is rich in personal observations, and eminently practical.

The author has had very extensive experience during a long period in the Military Hospital of Val-de-Grace, and the result of his observations are entitled to every confidence.

Hennen's Military Surgery is in the press and will be shortly published by Messrs. **Carey & Lea.** Our esteemed cotemporary, the Editor of the London Medical and Surgical Journal, observes, "it is a work of supererogation for us to eulogize Dr. Hennen's Military Surgery; there can be no second opinion on its merits," a sentiment in which we fully coincide.

NECROLOGY.

With deep regret we have the melancholy task of recording the death of one of the most esteemed, active, and able collaborators of this work, **John D. Godman, M. D.** On the 17th of April he terminated his earthly career, in the thirty-fourth year of his age, a victim to pulmonary consumption, brought on by too zealous application in the pursuit of science, and from exertions in the discharge of professional duties, too arduous for the strength of his corporeal frame.

Thus has perished the estimable and gifted Godman, in the commencement of a career which his capabilities and mental energies promised to have been of the most brilliant character, conferring by his labours, on society the highest benefits, and gathering to himself a grateful and unfading renown. His death is a loss to the medical literature and science of our country, that will long be felt, and will not be easily replaced.

He has perished in a noble cause. But how unjust is society, how little it appreciates its true advantages, how unequal its estimate of useful services. Had Godman fallen by a foeman's hand on the field of carnage, the butcher of his race in a quarrel of sordid interests, he would have passed from the world shrouded with its glories, mausoleums would have been erected to perpetuate his fame, eulogy have poured forth its pompous harangues, poetry lavished its gorgeous decorations to blazon his memory, and a nation's coffers been opened to protect the widow from want and the orphan from desolation.

He has died a sacrifice to the best interests of society and the permanent welfare of mankind—the advancement of knowledge, the progress of science, the refinement of humanity, and the melioration of the sufferings of human nature. The world looks coldly on, the tear of the philanthropist and friend in silence bedews his remains, the philosopher in retirement turns from his meditations to sorrow for his loss, and the widow and the orphan must look for their consolation and support, to the sad remembrance of his virtues.

We hope in our next number to give a biographical memoir of our lamented colleague.

It is with great regret that we have learned of the death of STEPHEN ELLIOTT, Esq. late Professor of Natural History and Botany in the Medical College of South Carolina. Mr. E. was an ardent cultivator of natural history, and one of the best botanists in our country.

At a meeting of the Faculty of the Medical College of South Carolina, held on the 31st of March, on the occasion of the sudden and lamented death of Professor Elliott, the following resolutions were adopted:—

Resolved, That the Faculty of the Medical College of South Carolina deplore with profound regret the death of their much respected colleague, Stephen Elliott, late Professor of Botany and Natural History—that they regard his loss as an event calculated deeply to affect the interests of science and literature in our community, now deprived of a zealous and successful cultivator of learning in many of its most important departments.

That an endeavour be made to procure a bust of our late colleague, to be placed in some conspicuous situation within our college edifice; and that the dean be authorized to set apart for this purpose any necessary amount from the treasury.

That they offer to his afflicted family, in this melancholy bereavement, the expression of their heartfelt sympathies.

Resolved further, That as the highest inducement to a faithful and unwavering performance of the several duties of social life, which can be offered to the young and ardent, is to be found in the reverence paid to the memory of the talented, the useful, and the virtuous, after death, they propose to the Literary and Philosophical Society of South Carolina, of which their lamented colleague was a prominent member, to unite in taking such measures as shall be deemed most impressive and suitable to evince their high regard for the deceased, and their sincere sorrow for his loss. With this view they suggest that a fit person be selected to deliver, as early as may be, a funeral oration, or eulogy, in memory of the departed, and that sufficient funds be forthwith provided for the erection of a monument, which shall record, however imperfectly, his worth, and our esteem.

Died, on the 9th of September last, Dr. JOSIAH GOODHUE, President of the Berkshire Medical Institution. Dr. Goodhue was born at Dunstable, Middlesex county, Massachusetts, January 17, 1759. He early devoted himself to study, and entered Harvard University about the commencement of our revolutionary struggle, where he remained until the disturbances of the revolution caused the collegiate exercises to be suspended, when he returned home, and soon afterwards commenced the study of medicine with Dr. Kittredge of Tewksbury, with whom he continued two years, the usual period of medical pupilage at that time. He commenced practice at the age of twenty, at Putney, Vermont, where his parents then resided; and the fame of his preceptor, and a successful operation of minor importance, soon introduced him into business. He now began to lay the foundation of his future usefulness. The standard of medical education was at that time very low; his preceptor's library is said to have consisted of not more than half a dozen volumes, and Dr. Goodhue feeling many embarrassments from the want of theoretical knowledge, determined to procure and study all the latest and best works, a course which he pursued to the close of his life. His industry soon procured him very extensive practice, both medical and surgical. His first capital operation, that of amputation of the leg, he performed without ever having seen it done before, and guided only by his books, and this was the case with most of his succeeding operations.

In the year 1800, the faculty of Dartmouth college conferred on him the honorary degree of M. D. In 1803, he removed to Chester, Vermont, where he remained, enjoying the unlimited confidence of his patrons and of his professional brethren, till 1816, when beginning to feel the infirmities of age from excessive professional duty, and wishing to curtail his business, he changed his residence to Hadley, Massachusetts, where he continued to practice until compelled to relinquish it by declining health. In the year 1823, he was appointed President of the Berkshire Medical Institution, an office which he held till his death.

We are indebted for the above particulars of the life of Dr. Goodhue, to an interesting biographical memoir, by S. W. Williams, M. D. Professor of Medical Jurisprudence in the Berkshire Medical Institution.

QUARTERLY
MEDICAL ADVERTISER.

IN consequence of the extended circulation of the AMERICAN JOURNAL OF THE MEDICAL SCIENCES, the Proprietors intend, in compliance with the wishes of many of their Friends, to increase the facilities for advertising, hitherto possessed by it. For this purpose, a Sheet of Advertisements will be prefixed to the succeeding Numbers of the Journal. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to CAREY & LEA, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz. on 10th July, 10th October, 10th January, and 10th April.

TERMS.

For one page - - - - - - - - -	Six dollars.
Half a page or less - - - - - - -	Three dollars.

Philadelphia, January 20, 1830.

UNIVERSITY OF PENNSYLVANIA.

At a Medical Commencement held March 24th, 1830, *in the Musical Fund Hall, Locust street, the Degree of Doctor of Medicine was conferred upon the following Gentlemen.*

NAMES.	STATES.	SUBJECT OF ESSAY.
A.		
Samuel Abernethy,	Penns.	*Traumatic Hæmorrhage.*
Alfred Anderson,	S. C.	*Neuralgia.*
Abram Maury Allen,	Va.	*Injuries of the Head.*
John W. Anderson,	Md.	*Dropsy.*
Hugh Horner Abernethy,	Penns.	*Rupture of the Uterus.*
Richard D. Arnold,	Geo.	*Asthenia.*
Levin H. Adams,	Del.	*Catarrh.*
B.		
Thomas M. Boyle,	Va.	*Amenorrhœa.*
Randolph Brearley,	N. J.	*Dysentery.*
Daniel J. Bruner,	Penns.	*Asthma.*
Robert P. Brooke,	Va.	*Typhus Fever.*
William G. Britton,	Va.	*Peritonitis.*
Bennet A. Bouton,	Penns.	*Croup.*
Thomas D. Brown,	Va.	*Pneumonia Biliosa.*
John Foulk Bullick,	Penns.	*Stricture of Urethra.*
Patrick H. W. Bronaugh,	Va.	*Paralysis.*
Armistead F. Brackin,	N. C.	*Cholera Infantum.*
Thomas Barbour,	Va.	*Acute Dysentery.*
Joseph Baldwin,	Penns.	*Hæmoptysis.*
Charles H. Black,	Del.	*Bronchitis Acuta.*
Horace M. Belt,	Va.	*Venesection in Fever.*
C.		
Cyprian Cross,	N. C.	*Pleuritis.*

Jonathan Clark,	Penns.	*Variola Vaccina.*
James S. Carraway,	Miss.	*Puerperal Convulsions.*
Jesse Carter,	N. C.	*Mania a Potu.*
Felix G. Callaway,	Geo.	*Inverted Toe Nail.*
Augustus H. Cenas,	Louis.	*Colitis.*
William M. Cross,	Va.	*Regimen.*
William Cunningham,	Va.	*Acute Dysentery.*
John F. Charles,	Penns.	*Amenorrhœa.*
Joseph Carson,	Penns.	*Animal Temperature.*
D.		
Robert M. Dunbar,	Va.	*Variola.*
Alex. Franklin Dulin,	Va.	*Peritonitis Puerperalis.*
William R. Derickson,	Del.	*Small-Pox.*
E.		
Benjamin Rush Erwin,	N. J.	*Secale Cornutum.*
John R. Edmonds,	Va.	*Acute Hepatitis.*
F.		
Joseph W. Farnum,	R. I.	*Verminous Affections.*
George Fitzgerald,	Va.	*Pleuritis Acuta.*
Henry M. Fuller,	S. C.	*Arthritis.*
George F. Fort,	N. J.	*Hydro-Arachnitis Infantum.*
James Burette Ford,	Va.	*Cholera Infantum.*
John F. Fauntleroy,	Va.	*Hydrocephalus.*
G.		
Richard Garland,	Va.	*Spontaneous Hæmorrhage.*
Thomas H. Green,	Penns.	*Hereditary Diseases.*
William W. Gerhard,	Penns.	*Endermic Applications.*
Selah Gulick,	N. J.	*Miasmata.*
Robert M. Garrett,	Va.	*Capillary Vessels.*
Michael F. Groves,	Penns.	*Hernia.*
William A. Gray,	Va.	*Dysentery.*
Lewis M. George,	Va.	*Lithotomy.*
John R. Garnett,	Va.	*Cynanche Trachealis.*
Ezra Gildersleeve,	Penns.	*Secondary Causes of Action in the Human System.*
Lemuel Gustine,	Penns.	*Typhus Fever.*
H.		
Robert H. Harrison,	Va.	*Active Hæmoptysis.*
John P. Harrison,	Va.	*Bilious Fever.*
Samuel R. Haywood,	N. C.	*Conduct of the Practitioner during Labour.*
Thomas Hun,	N. Y.	*Suspended Respiration.*
Edward B. Harris,	Alaba.	*Menstruation.*
Alexander Hall,	N. C.	*Structure and Functions of the Mucous Membranes.*
Edward Hallowell,	Penns.	*Pathology of Local Inflammation.*
J.		
Geo. Jacob Janeway,	Penns.	*Peritonitis.*
William Jones,	Penns.	*Hæmoptysis.*
Robert H. Jones,	Penns.	*Rubeola.*
Robert B. James,	S. C.	*Enteritis.*
K.		
William Keith,	Penns.	*Intermittent Fever.*
William H. Klapp,	Penns.	*Cholera Infantum.*
Marshall M. Keith,	Va.	*Trachitis.*
L.		
Ezekiel Lamar,	Geo.	*Bilious Remittent of Southern States.*
Hartwell H. Lewis,	Va.	*Acute Peritonitis.*

Thomas Lewis,	Va.	*Trachitis.*
James H. Lufborough,	D. C.	*Gastritis.*
Thomas Lee, Jr.	N. J.	*Datura Stramonium.*
John S. Landes,	Penns.	*Acute Gastritis.*
Evan G. Lester,	Penns.	*Bilious Colic.*
James B. Livingston,	N. Y.	*Cynanche Trachealis.*
M.		
James D. Mead,	N. Y.	*Dysentery.*
Frederick Martin,	Penns.	*Diaphoretics.*
Thomas Mathias,	Penns.	*Rupture of Uterus.*
Charles H. Martin,	Penns.	*Epilepsy.*
Francis Mallory,	Va.	*Causes of Yellow Fever.*
Alexander F. M'Kinney,	Tenn.	*Origin and Progress of Medicine.*
N.		
George Norris,	Penns.	*Varioloid and Vaccine Diseases.*
Thomas H. Nelson,	Va.	*Concussion of the Brain.*
P.		
Josiah H. Phelps,	Vermont.	*Croup.*
Walter R. Puckett,	Va.	*Cholera Infantum.*
Edmund P. Pollard,	Md.	*Hæmatemesis.*
James R. S. Purnell,	Md.	*Inflammatory Dysentery.*
James T. Persons,	Geo.	*Gastritis Acuta.*
Thomas Payne,	Va.	*Cynanche Trachealis.*
Chillian Palmer,	N. C.	*Autumnal Fever.*
William J. Pendleton,	Va.	*Ophthalmia.*
Jeffrey D. Palmer,	Va.	*Diet in Disease and Convalescence.*
R.		
David John Rogers,	Penns.	*Epilepsy.*
Edward Florens Rivinus,	Penns.	*Operation of Physical Causes upon the Constitution, Health, and Diseases of Man.*
Joseph Rittenhouse,	Penns.	*Cholera Infantum.*
Robert C. Randolph,	Va.	*Hepatitis.*
Lewis Roper,	Penns.	*Physiology and Pathology of the Teeth.*
Zachariah Reed,	N. J.	*Gonorrhœa Virulenta.*
James H. Ragan,	Geo.	*Syphilis.*
Nathaniel M. Roan,	N. C.	*Idiopathic Hydrothorax.*
Wm. S. W. Ruschenberger,	U. S. Navy.	*Diseases of the Liver.*
S.		
George F. H. Strawbridge,	Penns.	*A Peculiar Spasmodic Affection.*
Wilson C. Swann,	D. C.	*Ol. Terebinth.*
Albert H. Shepherd,	Geo.	*Gastro-Enteritis.*
Daniel B. Searcy,	Geo.	*Bilious Fever.*
William Selden,	Va.	*Bilious Fever.*
Charles P. Street,	Va.	*Endermic Applications.*
James H. Smith,	Penns.	*Rubeola.*
Thomas Stewardson, Jr.	Penns.	*Digestion.*
Albert Snead,	Va.	*Erysipelas Phlegmonodes.*
Bolling Winslow Stark,	Va.	*Puerperal Fever.*
T.		
Joseph W. Taylor,	Penns.	*Opium.*
Edward T. Taylor,	Va.	*Sanguineous Depletion.*
William B. Todd,	Va.	*Bilious Remittent Fever.*
John F. Townsend,	N. Y.	*Dyspepsia.*
V.		
John Van Buskirk, Jr.	Penns.	*Dysentery.*
W.		
John W. Waller,	Va.	*Strictures of Urethra.*

John James Wharton,	Va.	*Erysipelas.*
Thomas Wilson,	Penns.	*Hydrops Abdominis.*
George White,	N. J.	*Bilious Remittent Fever.*
Conway D. Whittle,	Va.	*Acute Hepatitis.*
Thomas Edward Wilson,	Ky.	*Opium.*
James C. Workman,	Penns.	*Dysentery.*
George Wood,	Va.	*Acute Peritonitis.*
Y.		
Thomas J. Yarrow,	N. J.	*Icterus.*

[*Total,* 125.]

W. E. HORNER, M. D. *Dean.*

MEDICAL COLLEGE OF SOUTH CAROLINA.

Officers of the Medical College of South Carolina.

JOHN EDWARDS HOLBROOK, M. D. *Professor of Anatomy.*
JAMES RAMSAY, *Professor of Surgery.*
SAMUEL HENRY DICKSON, *Professor of the Institutes and Practice of Medicine.*
HENRY R. FROST, *Professor of Materia Medica.*
THOMAS G. PRIOLEAU, *Professor of Obstetrics and Diseases of Women and Children.*
EDMUND RAVINEL, *Professor of Chemistry and Pharmacy.*
STEPHEN ELLIOTT, *Professor of Natural History and Botany.*
JOHN WAGNER, *Professor of Pathological and Surgical Anatomy.*
JOHN WAGNER, *Demonstrator of Anatomy.*

HENRY R. FROST, *Dean of the Faculty.*

GRADUATES IN 1830.

NAMES.	RESIDENCE.	SUBJECTS OF ESSAY.
Enoch Agnew,	Abbeville Dt.	*Retention of the Catamenia.*
William S. Burgess,	Williamsburg Dt.	*Retrocedent Gout.*
A. L. Barron,*	Charleston,	*Irritation.*
Austin B. Brown,	Barnwell Dt.	*Tetanus.*
William D. Boyd,	Chester Dt.	*Hydrops.*
Charles B. Carter,	Augusta, Geo.	*Catamenia.*
Franklin W. Cheney,	Georgia,	*Cathartics.*
Henry S. Cook,	Camden, S. C.	*Dysentery.*
John D. Caldwell,	Sumpter Dt.	*Hydrophobia.*
A. S. Clifton,	Columbia,	*Inflammation.*
Isaac B. Cannon,	Newbury Dt.	*Dyspepsia.*
Benjamin F. Dozier,	Williamsburg Dt.	*Thoracic Wounds.*
Hutchinson Dent,	Augusta, Geo.	*Anat. and Phys. Portal System.*
Thomas S. Denny,	Charleston,	*Puerperal Fever.*
Timothy K. I. Dargan,	Darlington Dt.	*Erysipelas.*
John Dickson,†	Charleston,	*Nervous Head-ache.*
Isaac F. Eves,	North Carolina,	*Vicissitudes of Temperature.*
Richard C. Fowke,	Barnwell Dt.	*Rhus Vernix.*
John W. Gardner,	Augusta, Geo.	*Fractures.*
William M. Grigsby,	Alabama,	
John K. Gary,	Newbury Dt.	*Bilious Fever.*

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* To this gentleman was awarded the premium offered by the faculty for the best Dissertation in the English language.

† A premium of twenty dollars having been offered by the Medical Society of South Carolina, for the best Dissertations in the Greek and Latin languages, the president of the society announced that the Thesis of this gentleman in the Greek language had been approved by a committee of literary gentlemen, and the premium was accordingly conferred.

Henry B. Holland,	Savannah, Geo.	*Melancholia.*
James P. Jervey,*	Charleston,	*De Febre Intermittente.*
Edward W. Jones,	Georgia,	*Amenorrhœa.*
Thomas Lee,	Charleston,	*Yellow Fever.*
Thomas L. Lyles,	Newbury Dt.	*Bilious Remittent Fever.*
George A. C. M'Whorter,	Augusta, Geo.	*Malaria.*
William S. Mobley,	Edgefield,	*Gastritis.*
Abner Manley,	Georgia,	*Circulation of the Blood.*
William M'Queen,	Chesterfield,	*Hæmorrhage.*
John M'Lemore,	Richland Dt.	*Epilepsy.*
William D. Marsh,	Alabama,	*Injuries of the Head.*
John O'Nicholson,	Edgefield Dt.	*Hydrophobia.*
Richard North,	Charleston,	*Yellow Fever.*
Henry T. Nicholes,	Coosawhatchie,	*Dysentery.*
Thomas L. Ogier,	Charleston,	*Anat. and Phys. Eye.*
Robert Oswald,	Beaufort,	*Mania a Potu.*
William Pinckney,	Walterborough,	*Contagion.*
Andrew Pulliam,	Abbeville Dt.	*Dyspepsia.*
John Rhodes,	Beaufort,	*Podophyllum Peltatum.*
E. M. Robertson,	Augusta,	*Bilious Remittent Fever.*
Presley B. Ruff,	Newbury Dt.	*Hepatitis.*
William M. Reid,		*Blood-letting.*
Benjamin Sweat,	Grahamville,	*Tetanus.*
Samuel Sample,	Abbeville Dt.	*Dysentery.*
A. S. Starr,	York Dt.	*Cholera Morbus.*
R. L. Taggart,	Abbeville Dt.	*Mercury.*
Henry L. Theus,	Sumpter Dt.	*Apoplexy.*
James W. Thompson,	Spartanburg Dt.	
William T. Wragg,	Charleston,	*Ulcers.*
Andrew Wicker,	Columbia,	*Malaria.*
Eldridge C. Williamson,	Georgia,	*Influenza.*
Morton Waring,	Charleston,	*Typhus Gravior.*
Charles Wilson,	Augusta, Geo.	*Diseases of Warren County, Geo.*
Philip Yonge,	Florida,	*Rheumatism.*

Total, 55.

The class in attendance upon the lectures the last session, amounted to one hundred and sixty students, from the states of South Carolina, North Carolina, Georgia, Alabama, and the Territory of Florida.

PUBLIC VACCINE INSTITUTION OF PHILADELPHIA.

The Select and Common Councils of the City of Philadelphia, having so altered the ordinance providing for the gratuitous vaccination of the poor of said city, as to make it the duty of four individuals; and the subscribers having been appointed to the performance of the above duties, would respectfully inform the Medical Profession throughout the United States, that it is their intention to keep a constant supply of genuine fresh vaccine virus, which they will supply on receiving a small remuneration for the extra trouble it will occasion. Applications, (post paid,) enclosing three dollars, addressed to either of the subscribers, will be promptly attended to.

DAVID C. SKERRETT, M. D. *No. 155, South Tenth street.*	GEORGE SPACKMAN, M. D. *Twelfth street, one door below Race.*
JOSEPH PANCOAST, M. D. *No. 103, Walnut street.*	AMOS PENNEBAKER, *No. 91, North Fourth street.*

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* A premium of twenty dollars was conferred on this gentleman for the best Essay in the Latin language.

MEDICAL INSTITUTE OF PHILADELPHIA.

The Summer Course of Lectures will begin on Monday the 5th day of April, and end on the Saturday preceding the first Monday of November. The month of August is a vacation.

NATHANIEL CHAPMAN, M. D.
On the Practice of Medicine.

WM. P. DEWEES, M. D.
On Midwifery.

THOS. HARRIS, M. D.
Surgeon U. S. Navy,
On Operative Surgery.

SAML. JACKSON, M. D.
On Materia Medica.

WM. E. HORNER, M.D.
On Anatomy.

JNO. K. MITCHELL, M. D.
On Chemistry.

JOHN BELL, M. D.
On the Institutes of Medicine,
and Medical Jurisprudence.

HUGH L. HODGE, M. D.
On the Principles of Surgery.

Philadelphia, January 14, 1830.

MEDICAL INSTRUCTION.

The high responsibility incurred by medical practitioners, and more especially by those, who, in our extensive country, may locate themselves far from the facilities and advantages which large cities present, renders the education of gentlemen for this profession, a matter of the greatest importance to the community. A growing sense of this has doubtless given rise to the increasing number of students who pass the summer months in this city, in order that their studies may continue uninterrupted throughout the year; in fact, the advantages resulting from a regular attendance upon public institutions, where surgical operations are frequently performed, and all forms of disease to be witnessed, and the opportunities and leisure required for consulting medical works, are only to be obtained in this way.

Entertaining these views, and disposed to facilitate, by every means in their power, the progress of students in medicine, the subscribers propose to give a summer course, to commence on the first Monday in April next, and to continue until the last of October. During the winter session of the University of Pennsylvania, the several courses there delivered will be reviewed by examinations.

W. GIBSON, M. D. *Principles of Surgery.*
J. RANDOLPH, M. D. *Operative Surgery.*
C. D. MEIGS, M. D. *Midwifery, &c.*
B. H. COATES, M. D. *Practice of Medicine.*
R. LA ROCHE, M. D. *Institutes of Medicine.*
R. E. GRIFFITH, M. D. *Materia Medica, Medical Jurisprudence, and Botany.*
J. P. HOPKINSON, M. D. *Anatomy.*

The Class will have the privilege of attending the Lectures on Chemistry, by Professor BACHE, at the Franklin Institute.

Philadelphia, January 1st, 1830.

CARPENTER'S
SARATOGA POWDERS
FOR MAKING
CONGRESS SPRING OR SARATOGA WATERS,
Equal to that Fresh from the Springs.

THERE is perhaps scarcely an individual who is not acquainted either by experience or report with the salutary effects of the Congress Springs water at Saratoga. From thirty to fifty thousand persons annually visit these springs—many from the remotest sections of the United States, and some from the West Indies, and other foreign places. They have been found extremely useful in most complaints of the stomach, particularly in those where all other aperient medicines cannot be retained; they act as an aperient or alterative, and at the same time give tone and strength to the stomach, and increase the digestive powers. They are most valuable in dyspeptic and bilious complaints; and are conducive to health by acting as a tonic, and imparting strength to the constitution.

☞ They are much superior to the Seidlitz, being equally aperient, and more agreeable, while at the same time they possess tonic and chalybeate qualities in a superior degree, and are consequently better adapted to weak and debilitated constitutions than any other cathartic in use.

Printed directions accompany the powders.

N. B. As in every useful and valuable discovery there will be imitations made, the public therefore, when ordering the above powders, will please distinguish them by *Carpenter's* Saratoga Powders, otherwise they may perhaps get another article.

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GEORGE W. CARPENTER'S
COMPOUND
FLUID EXTRACT OF SARSAPARILLA.

THE extensive use of Sarsaparilla in Medical practice for some years past, and the trouble and difficulty which patients are subjected to in making the decoction or syrup, has rendered it an object of importance to procure a preparation of it in a more convenient form than those usually prescribed. Sarsaparilla requires considerable boiling to take up the extractive matter, and it is consequently most frequently improperly made by those unacquainted with pharmaceutical preparations. To obviate these difficulties, G. W. Carpenter has manufactured a Fluid Extract of Sarsaparilla, possessing all the virtues of this medicine in a highly concentrated degree. It possesses numerous advantages over Sarsaparilla, its syrup, decoction, and solid extract, and is introduced as a preparation of much easier portability, not liable to injury by long keeping, and consequently better adapted to the use of persons travelling or residing abroad.

Remark.—This Extract has proved one of the most popular medicines ever introduced in Philadelphia. It is highly approved of by the faculty, and extensively employed by our most distinguished physicians. It has already been sent to almost every populated section of the United States, and whether in town or country, hospital or private practice, it has invariably given to patient and practitioner the most decided and unequivocal satisfaction, and produced the most salutary and beneficial effects. Numerous letters have been received from some of the most distinguished physicians in the country, and from the professors of several medical colleges, all recommending in the highest terms the value of this medicine, and its superiority over other preparations of Sarsaparilla. Several cases of secondary syphilis, mercurial and scrofulous diseases, have entirely recovered in the incurable wards of our public institutions, which had for many years resisted every mode of treatment which could be devised. These cases furnish striking examples of the salutary effects of this medicine, in arresting some of the most inveterate diseases after the glands were nearly destroyed, and the bones already affected.

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COMPOUND SYRUP OF LIVERWORT.

HEPATICA TRILOBA.

THIS plant has proved to be a safe and valuable medicine for Coughs, Spitting of Blood, Consumption, and Liver Complaints.

Most of the medicines made use of for the above diseases are of a stimulating nature, composed generally of resins and balsams in alcoholic solutions, which, although sometimes giving temporary relief, in almost every instance where they are freely used, aggravate the disease, and reduce the strength of the patient.

This article possesses superior advantages over these preparations, its action being of a tonic, invigorating, and strengthening nature, thus overcoming the disease, by promoting expectoration, and gradually increasing the strength of the patient, and this without being attended with any unpleasant effects, it also agrees with the stomach in all cases, and is a pleasant and agreeable medicine to take.

It has generally been administered in the form of tea or decoction; this has most frequently been improperly made by those unacquainted with pharmaceutical preparations, and has brought this medicine into disrepute, preventing its application in many cases where it otherwise would have proved highly useful and beneficial.

To guard against these inconveniences, and to bring before the public a concentrated preparation of this valuable article of uniform strength, George W. Carpenter is pleased to announce the preparation of Compound Syrup of Liverwort, which will obviate all the disadvantages above described. This preparation is as active as it can be made from the fresh plant, and the virtues considerably improved by the tonic and expectorant medicines, which have been selected as adjuvants.

Prepared and sold only by GEORGE W. CARPENTER, at his Chemical Warehouse, No. 301, *Market street, Philadelphia.*

MANUFACTURED AS ABOVE.

SULPHATE of QUININE.—DENARCOTIZED OPIUM.

PIPERINE, a valuable adjunct to Quinine, used with great success in equal proportions, and is much more efficient than either taken alone. For a full account of this article, and testimonials of its effects, see my paper in the American Journal of the Medical Sciences, and in the American Journal of Science and Arts.

OIL of BLACK PEPPER, (precipitated in the preparation of Piperine,) this article is much more active than Piperine; one drop is fully equal to four of the latter. One drop of the Oil of Black Pepper added to three grains of Piperine, will greatly increase the powers of that remedy.

DENARCOTIZED ACIDULOUS TINCTURE of OPIUM, a valuable substitute for the uncertain preparation called Black Drop. For a full account of this preparation, and Denarcotized Opium, see my paper on the Con-

CARPENTER'S CHEMICAL WAREHOUSE.

stituent Principles of Opium, published in the American Journal of the Medical Sciences, and in the American Journal of Science and Arts.

BLUE PILL, from a formula adapted for the speedy and effectual reduction of the mercury. For the formula of its preparation, and observations on this article, see my paper on mercury in the above Journals.

SOLIDIFIED COPAIVA. This is an active preparation of the Balsam, and is rendered solid without the application of heat, or diminishing its strength by the addition of inefficient articles—it is much used, and highly approved of by the faculty. *Caution.*—The resin of copaiva, obtained by evaporating the balsam, is entirely inert.

OIL of COPAIVA, dose five to eight drops. It is superior to Naphtha for preserving potassium.

OIL of CUBEBS. This is a valuable addition to Balsam of Copaiva: ten to twenty drops to an ounce of balsam, will increase the virtues of that remedy in gonorrhœa.

CARPENTER'S CITRATED KALI, for making saline draught or neutral mixture. One drachm of this salt dissolved in four ounces of water, instantly produces a mixture similar and equal in every respect to that made with fresh lemon juice and salt of tartar.

BLACK OXIDE of MERCURY, for extemporaneously making blue mass. One-fourth of a grain is fully equal to three grains of blue pill.

COMPOUND TONIC EXTRACT. This article is a compound of some of the most active vegetable alkalies, being composed of Cornine, Quinine, Piperine, Capsicine, &c. &c. It has proved more efficient than any preparation yet employed in the treatment of intermittents, arresting the paroxysms in cases which have resisted Quinine and other remedies in large doses. For an account of the Cornine see Dr. Morton's valuable paper in the Philadelphia Journal of the Medical and Physical Sciences. For an account of the Piperine, see my paper in the American Journal of the Medical Sciences, &c. &c. &c.

EXT. SEM. STRAMONIUM, dose one-fourth of a grain. For an account of this article, see a paper published in the 7th volume of the Medico-Chirurgical Transactions.

EXT. of QUININE. This is the residuum of the preparation of Quinine, and is preferred by some to the sulphate, as it comes much lower than the former, being but one-third the price; it would be well for practitioners to satisfy themselves of its value.

SUPERIOR RED BARK, selected with great care from the Cinchona oblongifolia, and put up in ℔j. and ℥j. sealed cylindrical packages. The Red, when pure, is the best species of Peruvian Bark, it contains both the alkalies, Quinine and Cinchonine, in considerable proportions.

SUPERIOR CALISAYA BARK, (Calisaya arrollenda.) This is the best species of yellow bark, and derives its name from the province in which it is collected. It is the bark which yields Quinine in greater proportion than any other species, it is neatly put up in sealed cylindrical packages of ℔j. and ℥j.

SUPERIOR LOXA or CROWN BARK. This bark was more esteemed in Spain than any other species, and was selected for the royal family, hence the name crown bark. This is a milder bark than the Red or Calisaya; its product is Cinchonine; it agrees better with the weak and delicate stomach than the stronger barks. This, like the preceding, is put up in sealed packages of ℔j. and ℥j. There is no article of the Materia Medica in which there has been more fraud and deception than Peruvian bark; the subscriber, under these circumstances, has been extremely particular in the selection of these species of bark, and has put them up in packages, with his written signature on each, as a guarantee of their purity and his responsibility if they should prove otherwise.

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The subscriber has just received from Paris and London, invoices of French and English chemicals, &c. &c. &c. among which are the following selection:—

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MURIATE and OXIDE of GOLD.
EMETINE, LUPULINE, and DELPHINE.
CINCHONINE, STRYCHNINE, and VERATRINE.
PRUSSIC ACID, (dose one minim.)
IODINE, and HYDRIODATE of POTASS.
PYROLIGNEOUS ACID, eight times the strength of distilled vinegar.
TARTAR EMETIC, in crystals, Pelletier's.
LONDON CALOMEL.
LIQUOR AMMONIA, concentrated, in ℔j. bottles. This highly concentrated fluid is used in chemical experiments, and for imparting pungency to smelling bottles; it is about six times the strength of the liquor ammonia of commerce.
EAR TRUMPETS, Pointer's patent.
STOMACH TUBES with patent syringe.
SUPERIOR FRENCH SYRINGES for the EAR and EYE, also a complete assortment of the most improved kinds.
GUM ELASTIC INSTRUMENTS of every description, as Bougies, Catheters, Injection Bags for children and adults, Pessaries, Setons, &c. &c. &c. &c.
SUPERIOR LONDON SURGICAL INSTRUMENTS, of the most unexceptionable quality, of every description; viz. Amputating, Trepaning, Lithotomy, Obstetrical, Pocket Cases, Dissecting, Teeth Instruments for extracting, scraping, and plugging, &c. Trusses of all kinds, Lancets, silver and brass, Thumb and Spring Lancet Blades, &c. &c. &c. &c.
IMPROVED TOOTH KEYS, with hinge button, to protect the gums; also
SUPERIOR PATENT TOOTH KEYS, to raise the tooth perpendicular, by a lever resting on the other teeth. This is one of the most valuable tooth instruments known.
SKELETONS, MALE and FEMALE, on wires. These are very superior; the teeth are all perfect, the bones perfectly white, and every part put together with the most anatomical precision.
ARTERIAL PREPARATIONS, the arteries and blood-vessels injected, and the muscles displayed.
SEPARATE HEADS, articulated and sawed in various ways; also Dr. Gall's, exhibiting the phrenological marks, &c. and referring to his treatise by numbers on the head. Price $15.
OBSTETRICAL MODELS or MACHINES, of leather, with mannikin complete, to illustrate the practice of obstetrics.
SPLINTS for the THIGH, each ARM and LEGS, all complete.
AMESBURY'S APPARATUS for FRACTURES of the LEG and THIGH.
VACCINE VIRUS BOTTLES, (Dr. Plunket's,) in Russia cases.
TUBES for PRESERVING VACCINE VIRUS.
PILL MACHINES, for making twelve to eighteen pills, on brass rollers; very convenient for the country practitioner.

The above, with a general assortment of Drugs, Chemicals, Glassware, and every thing appertaining to the profession, can be had of the most superior quality, and as low as those of like character can be had in this city, or elsewhere, at *GEORGE W. CARPENTER'S Chemical Warehouse, No.* 301, *Market street, Philadelphia.*

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THE Subscribers to the above Institution, those Practitioners who have for the last twelve years obtained their supplies of vaccine virus from the undersigned, and the profession generally throughout the United States, are respectfully informed that applications for vaccine virus will be attended to as usual, at all seasons of the year, and at one day's notice, by the undersigned.

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Hennen's Medical Topography.
Kœcker on the Teeth.
Pinney's Code of Health.
England on the Kidneys.
Abernethy's Lectures on Surgery.
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Christison on Poisons.
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They will receive twice in each month all the New Works that appear in London and Paris. Orders for both these cities will be made up twice in each month, and gentlemen desirous to have books imported may rely upon having them sent promptly.

⁂ All new works noticed in the American Medical Journal, may be had on application to

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Contents.—On the Ordinary Remittent or Marsh Fever.—On the Chronic or Relapsing, and Obscure or Anomalous Remittent.—On the Proximate Cause of Remittent or Marsh Fever.—On the cure of Remittent Fever.—On the Dysentery and the Cholera.—On Intermittent Fevers.—On the Obscure, Anomalous, and Simulating Intermittents.—On the Cure of Intermittent Fevers.—On Neuralgia in General.—On the Neuralgia of the Face, or the Tic Douloureux.—On the Periodical Head-ache, and on Vertigo.—On the Neuralgiæ of other Nerves in various parts of the body.—On Sciatica.—On Questionable Neuralgiæ.—On Neuralgic Affections of the Glands.—On Neuralgia from injuries of Nerves.—On Tooth-ache.—On the Rheumatism of the Eye, or the Neuralgic Ophthalmia.—General Remarks on the Connexion between Neuralgia and Intermittent.—On certain consequences of Intermittent or Marsh Fever and Neuralgia.—On the cure of Neuralgia in General.—Conjectures respecting the condition of the Nerves and Nervous System in the Intermittent and Neuralgic Diseases.—Tabular View of the Diseases appertaining to Marsh Fever and Neuralgia.

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The PRACTICE of PHYSIC, by W. P. Dewees, M. D. Adjunct Prof. of Midwifery in the University of Pennsylvania, in 2 vols. 8vo. The public need not be informed how much a work like that published was wanted. It has been the particular object of the author to endeavour to accommodate the mode of managing the diseases of which he treats, to the many pathological discoveries recently made, both in this country and in Europe, and having also availed himself of his long experience, he trusts that his work will remove many of the embarrassments experienced by many practitioners.

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MANUAL of MATERIA MEDICA and PHARMACY. By H. M. Edwards, M. D. and P. Vavasseur, M. D. comprising a Concise Description of the Articles used in Medicine; their Physical and Chemical Properties; the Botanical Characters of the Medicinal Plants; the Formulæ for the Principal Officinal Preparations of the American, Parisian, Dublin, Edinburgh, &c. Pharmacopœias; with Observations on the Proper Mode of Combining and Administering Remedies. Translated from the French, with numerous Additions and Corrections, and adapted to the Practice of Medicine and to the Art of Pharmacy in the United States. By Joseph Togno, M. D. Member of the Philadelphia Medical Society, and E. Durand, Member of the Philadelphia College of Pharmacy.

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Some interesting communications will be found under the head of American Intelligence. Nearly all the articles in this department are original.

The following publications have been received:—

Traité des Maladies des Voies Urinaires. Par CHOPART, Professeur, &c. Nouvelle édition, Revue, Corregée, Augmentée de Notes et d'un Mémoire sur les Pierres de la Vessie et sur la Lithotomie. Par M. E. H. FELIX PASCAL, D. M. P. &c. &c. 2 vols. 8vo. Paris, Germer Baillière, 1830.

La Manœuvre de tous les Accouchemens Contre Nature, Réduite a sa plus Grande Simplicité et précédée du Méchanisme de l'Accouchement Naturel. Par JULES HATIN, D. M. P. &c. Paris, Germer Baillière, 1827.

Circulation du Sang dans le Fœtus, Décrite et Dessignée, par J. ACHILLE COMTE, Interne des Hôpitaux Civils, &c. Paris, Germer Baillière, 1827.

Cours de Philosophie Positive. Par M. AUGUSTE COMTE, Ancien Eléve de l'Ecole Potucnique. 1 Livraison. Paris, Rouen Frères, 1830.

Mémoires sur l'Electro-Puncture, considérée comme Moyen Nouveau de Traiter Efficacement la Goutte, les Rheumatismes et les Affections Nerveuses, et sur l'Emploi du Moxa Japonia en France; suivis d'un Traité de l'Acupuncture et du Moxa, Principaux Moyens Curatifs ches les Peuples de la Chine, de la Corée, et du Japon; ornés de Figures Japonaises, par le Chevalier SARLANDIERE, D. M. Paris, Melle. Delauney, 1825.

Transactions of the Medical and Physical Society of Calcutta, Vols. I. and II. (From the Society.)

Traité des Plaies de Tête et de l'Encéphalite Principalement de celle qui leur est Consécutive: Ouvrage dans lequel sont Discutées Plusieurs Questions relative aux Fonctions du Système Nerveux en Général. Par J. P. GAMA, D. M. Chirurgien en Chef Premier Professeur a l'Hôpital Militaire d'Instruction du Val-de-Grace a Paris. Sédillot, Paris, 1830.

Traité Général d'Anatomie Comparée. Par J. F. MECKEL. Traduit de l'Allemand et Augmenté de Notes. Par MM. RIESTER et ALPH. SANSON, Docteurs en Chirurgie de la Faculté de Paris, Tom. VI. Rouen Frères.

Mémoires Composés au sujet d'une Correspondance Météorologie, ayant pour but de Parvenir a Prédire le temps beaucoup a l'Avance sur un point donné de la Terre. Par P. E. MORIN, Ancien Eléve de l'Ecole Polytecnique. &c. Memoire 1, 2, 3, 4. Paris, 1827–9.

Traité Elémentaire d'Anatomie contenant les Préparations l'Anatomie Descriptive et les Principales Régions du Corps Humain. Par A. BRIERRE DE BOISMONT, D. M. P. &c. Avec des Notes Extraites du Cours de PH. FRED. BLANDIN, Professor Particulier d'Anatomie et de Medecine Operatoire, &c. Paris, Mme. Auger Méquinon, 1827.

Observations on the Endermic Application of Medicines. By WILLIAM W. GERHARD, M. D. (From the author.)

Journal der Chirurgie und Augen-Heilkunde, herausgegeben von C. F. v. GRAEFE und PH. V. WALTHER. (In exchange.)

Litterarische Annalen der gesammten Heilkunde, September, October, November, December, 1829, and January, February, March, 1830. (In exchange.)

Archives Générales de Médecine; Journal publiée par une Société de Médecins. January, February, March, April, 1830. (In exchange.)

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Révue Médicale, Français et Etrangère, Journal de Clinique de l'Hôtel-Dieu, de la Charité, et des Grands Hôpitaux de Paris; et Nouvelle Bibliothèque Médicale. February, March, 1830. (In exchange.)

Annales de la Médecine Physiologique. February, March, 1830. (In exchange.)

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La Clinique, annales de Médecine Universelle, Vol. II. Nos. 23 to 39 inclusive. (In exchange.)

Journal de Chimie Médicale, de Pharmacie et de Toxicologie. January, February, March, April, May, 1830. (In exchange.)

Journal Universel des Sciences Médicales. February, March, 1830. (In exchange.)

Mémorial des Hôpitaux du Midi, et de la Clinique de Montpelier. Par le Prof. DELPECH. February, March, 1830. (In exchange.)

The Medico-Chirurgical Review and Journal of Practical Medicine, for April. 1830. (In exchange.)

The London Medical Gazette, for March, April, and May, 1830. (In exchange.)

The Edinburgh Medical and Surgical Journal, for April, 1830. (In exchange.)

The London Medical and Physical Journal, for March and April. (In exchange.)

London Medical and Surgical Journal, for March and April, 1830. (In exchange.)

The North American Medical and Surgical Journal, July, 1830. (In exchange.)

The New York Medical and Physical Journal, for January, 1830. (In exchange.)

The Baltimore Monthly Journal of Medicine and Surgery, Vol. I. Nos. 1, 2, 3, 4. (In exchange.)

The Boston Medical and Surgical Journal, Vol. III. Nos. 12 to 22 inclusive. (In exchange.)

The Western Journal of the Medical and Physical Sciences, April, 1830. (In exchange.)

The Maryland Medical Recorder, for January, April, and July, 1830. (In exchange.)

For the gratification of our contributors we continue the references to the works, in which they will find notices to their communications; these references are, of course, restricted to the Journals received during the preceding three months.

Professor CHAPMAN will find his paper on Hæmorrhage noticed in Froriep's Notizen, for August, 1829.

Professor MOTT's case of Aneurism of the Innominata is noticed in the London Medical Gazette, for April; in the Archives Générales, for April; Baltimore Monthly Journal of Medicine and Surgery, for February, 1830; Maryland Medical Recorder, No. 3; and his case of Extirpation of an Osteo-sarcomatous Clavicle in the Bulletin des Sciences Medicales, for September, 1822.

Professor DEWEES will find his paper on Secale Cornutum noticed in the Transactions of the Medico-Chirurgical Society of Edinburgh, Vol. III. Pt. II.

Professor MUSSEY will find his case of Aneurism by Anastomosis noticed in the Archives Générales, for April; in the London Medical Gazette, for April; in the Baltimore Monthly Journal, for February; and in the Baltimore Medical Recorder, No. 3; and his Experiments upon the Colouring of Fœtal Bones with Madder, noticed in the Révue Médicale, for February, and the Archives Générales for March.

Professor DICKSON's Observations on the Effects of Heat are noticed in Froriep's Notizen for July, 1829.

Professor SEWALL's remarks on the Use of Turpentine in Hernia, are copied in the London Medical and Physical Journal, for March, and in the Maryland Medical Recorder, No. 2.

Professor JACKSON's observations on Absorption are noticed in the Baltimore Monthly Journal, for February; his remarks on the Pulse are noticed in the Boston Medical and Surgical Journal for June, and his case of Croup in the Maryland Medical Recorder, No. 2.

Professor HORNER's cases of Cholera Infantum are noticed in Froriep's Notizen, for June, 1829.

Dr. WRIGHT's observations on the Use of the Warm Bath in Delirium Tremens are noticed in the Boston Medical and Surgical Journal, for May, and in the North American Medical and Surgical Journal, for July; his Hospital Reports are noticed in the Baltimore Monthly Journal, for February.

Dr. SIMONS's remarks on the Use of Pyroligneous Acid are noticed in the London Medical Gazette, for May; in the New York Medical and Physical Journal, for January; in the Baltimore Monthly Journal, for February; in the North American Medical and Surgical Journal, for July; and in the Maryland Medical Recorder, for July, 1830

Dr. HENDERSON's case of Disease of the Bones is copied in the Archives Générales, for March, 1830.

Dr. LEHMAN's paper on Otitis is noticed into the London Medical and Physical Journal, for April.

Dr. JACKSON's case of Supposed Poisoning is analyzed in the North American Medical and Surgical Journal, for July.

Dr. HEUSTIS's case of Gun-shot Wound is republished in the Maryand Medical Recorder, No. 2.

Dr. **Hayward**'s case of Paruria Inops is copied in the Maryland Medical Recorder, No. 2.

Dr. **Gillian**'s case of Excision of the Cervix Uteri, is noticed in the Baltimore Monthly Journal, for February.

Dr. **Byrne**'s paper on the Use of Tartar Emetic Ointment is noticed in the Baltimore Monthly Journal, for February.

Dr. **Fahnestock**'s case of Concealed Phthisis is noticed in the Baltimore Monthly Journal, for February; his observations on the Use of Rhus Glabrum are copied in the Révue Médicale, for February; and his paper on the Use of Datura Stramonium is copied in the London Medical and Physical Journal, for April.

Dr. **Randolph**'s case of Osteo-Sarcoma of the Lower Jaw is copied in the London Medical Gazette, for April, 1830.

Dr. **Wells**'s case of Elephantiasis of the Scrotum is noticed in Titley's work on Diseases of the Male Genitals.

Dr. **Gaylord**'s case of Intus-susception is noticed in the London Medical Gazette, for May, 1830.

Dr. **Hall**'s case of Wound of the Rectum and Bladder is noticed in the London Medical and Physical Journal, for April.

Dr. **Taliaferro**'s case of Paralysis cured by Moxas, is copied in the Boston Medical and Surgical Journal, for July, 1830.

Dr. **Faust**'s Essay on Malaria is noticed in the Boston Medical and Surgical Journal, for May, 1830.

Dr. **Levert**'s Experiments on the Use of Metallic Ligatures are noticed in the Révue Médicale, for February, 1830, and in the Bulletin des Sciences Médicales, for September, 1829.

Dr. **Guild**'s case of Epilepsy is noticed in the Medico-Chirurgical Review, for April, 1830.

Dr. **Peirce**'s case of Perforation of the Stomach is republished in the London Medical and Physical Journal, for March, 1830.

Dr. **Pennock**'s Experiments on Cupping-Glasses in Poisoned Wounds are noticed in the Annales des Sciences d'Observation, for April, 1829.

Dr. **Rodrigues**' Experiments on Ligatures in Poisoned Wounds are noticed in the Annales des Sciences d'Observation, for April, 1829.

We are compelled, by want of room, to postpone other references until our next number.

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "**Carey** & **Lea**, Philadelphia, for the Editor of the American Journal of the Medical Sciences." All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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Observations on the Pathology of Venereal Affections. By Benjamin Travers, F. R. S. and Senior Surgeon to St. Thomas's Hospital. London, 1830, pp. 75, 8vo. - - - - - - - - - - - - - 394
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Mémoire sur l'Emploi des Iodurés dans les Maladies Scrofuleuses; suivi d'un Tableau pour servir a l'Administration des Bains Iodurés selon les ages. Par J. G. A. Lugol, Médecin de l'Hopital Saint-Louis. Paris, 1830. pp. 52, 8vo. - - - - - - - - - - - - - 408
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Compendium of Gynæcology, &c. By C. G. Carus, Doctor of Philosophy, Medicine and Surgery, &c. Part second. Leipzig, 1828. - - 429

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XVIII. Die Krankheiten des Gehoerorganes. Ein Handbuch zum Gebrauche seiner Vorlesungen. Von Karl Joseph Beck, der Arzneiwissenschaft Doctor, Ordentlichen Professor an der hohen Schule in Freiburg, und mehrerer Gelehrten Gesellschaften Mitgleide. Heidelberg und Leipzig, 1827.
Manual of Diseases of the Ear, &c. By Karl Jos. Beck, Doctor of Surgery, &c. 1827 - - - - - - - - - - - - - 452
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XX. Handbuch der Anatomie des Menschlichen Körpers mit Abbildungen. Von Martin Münz, Doct. der Medizin und Chirurgie, bey der ausübendem Arzte, öffentlichem ordentlichen Professor der Anatomie und Physiologie an der Ludwigs-Maximilians-Universität zu Landshut, &c. Erster Theil, Muskellehre, Landshut, 1821. Zweyter Theil, Gefässlehre, 1821. Dritter Theil, Eingeweid-lehre, 1827 - - - - 463

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XXII. Medico-Chirurgical Transactions. Published by the Medical and Chirurgical Society of London. Vol. XV. Pt. II. London, 1830, pp. 187, 8vo. Plates 4 - - - - - - - - - - - - - 469

XXIII. Handbuch der Entbindungskunst. Von Dr. Friedrich Benjamin Osiander, Wieland Königl. Grossbrit. Hanov. Hofrath, und Professor der Medicin und Entbindungskunst, Director des K. Entbindungs Hospitals, Mitglied der K. Societat der Wissenschaften zu Göttingen, &c. Erster band. Zweite Vermehrte Auflage. Bearbeitet von Dr. Johann Friedrich Osiander, Prof. der Medicin zu Göttingen, &c. mit dem Portrait des Verfassers. Tübengen, 1829.

Manual of Midwifery. By Fred. Benj. Osiander, M. D. Second improved edition, edited by John F. Osiander, M. D. Professor of Medicine at Gottingen, &c. - - - - - - - - - - - - 475

XXIV. A Treatise on Deformities; exhibiting a Concise view of the Nature and Treatment of the principal distortions and contractions of the limbs, joints, and spine. Illustrated with plates and wood cuts. By Lionel J. Beale, Surgeon. London, 1830, pp. 248. Pl. 4 - - - - - 476

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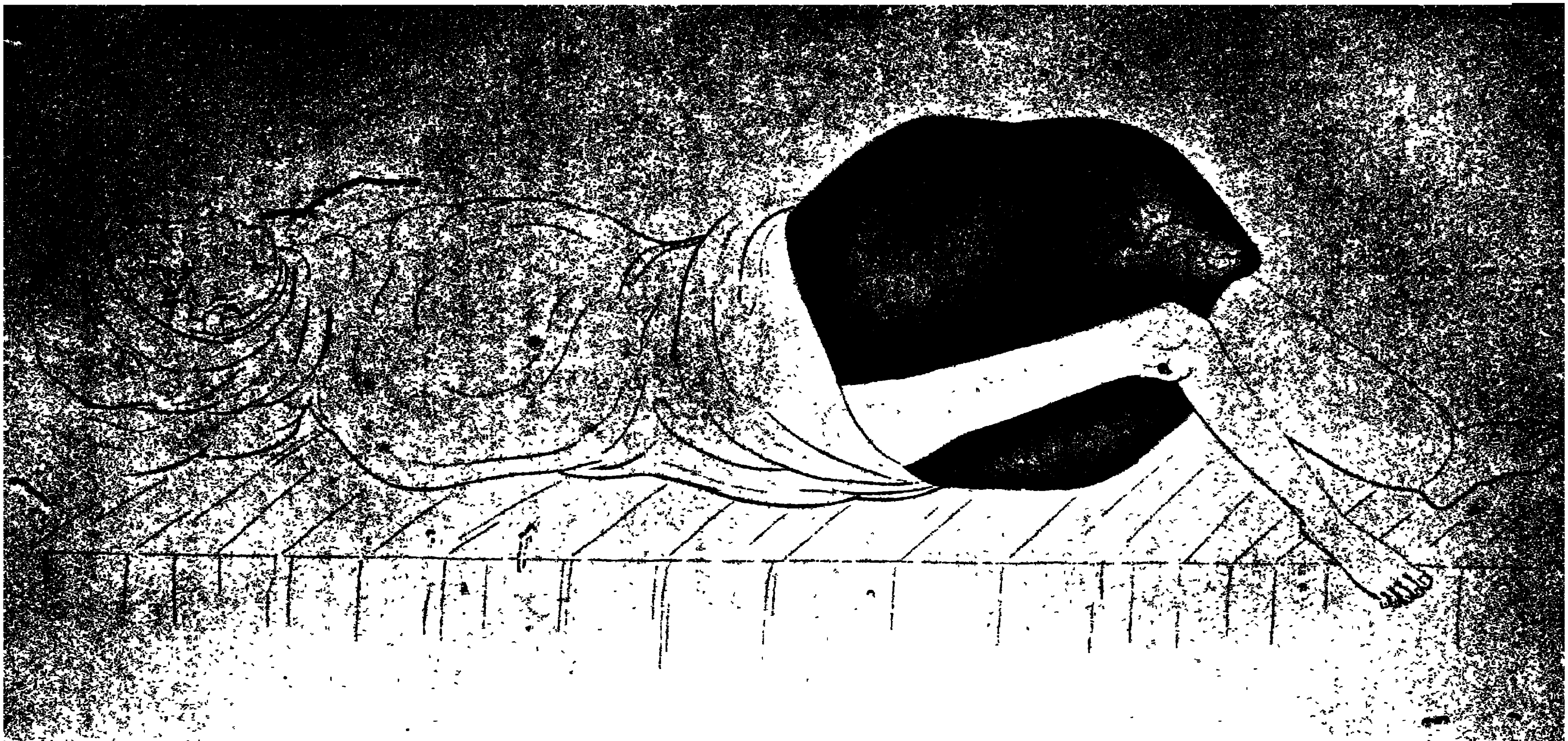

Sewall's
Case of Fungus Haematodes —

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MEDICAL SCIENCES.

Art. I. *Case of Fungus Hæmatodes.* By Thomas Sewall, M. D. Professor of Anatomy and Physiology in the Columbian College, District of Columbia.

THE following case of fungus hæmatodes, occurred in the practice of Dr. M'Williams of this city, the same gentleman whose name I have introduced in a former communication published in this Journal. By the courtesy of Dr. M'Williams, I had an opportunity of examining the case and marking its progress during the life of the patient, and was afterwards requested by him to make the post mortem examination, and draw up an account of its history.

The subject of the case was a Miss W—— of this city, about twelve years old, healthy, active, and intelligent.

In November, 1828, while in the enjoyment of her usual health, she was attacked with slight pain and lameness in the left thigh. On examination a hard tumour, the size of a walnut, was discovered on the inside of that thigh, situated one-third of the distance from the hip to the knee-joint. This was deep-seated and extremely obscure, being under the thickest part of the fascia lata, but by strong pressure it was found to be moveable and disconnected with the bone. From the time of the first examination of the case, the tumour continued to increase rapidly in size, and was attended with an almost constant, heavy, obtuse pain, which was also extended to the knee and ankle-joints, accompanied with an uneasy sensation in the whole extremity, producing a frequent desire to extend the limb and to change its position. The pain was always more severe and constant in cloudy and damp weather; but at other times would occasionally remit for six or eight hours together. At the end of six months, the tumour had acquired such a size as to disfigure the limb and to prevent the patient standing or walking, and the pain was more severe, and accompanied with a sensation of great heat or burning.

During the last eight months, all the symptoms became aggravated. The tumour increased with greater rapidity than before—its surface became irregular, and exhibited a glossy appearance, interspersed with livid patches and superficial vessels greatly enlarged, and when handled presented in different parts, very unequal degrees of firmness, at some points appearing soft and yielding, as if suppuration had taken place; at others, imparting to the touch a sensation of almost cartilaginous hardness.

Ten days before her death, a rupture of the tumour took place, accompanied by a copious discharge of acrid fœtid sanies, and continued without at all impeding its growth.

She died on the 22d of January, 1830, fourteen months from the commencement of the disease.

It should be remarked, that during the continuance of the disease, till within two days of its termination, the appetite was good; large quantities of nutritious food were taken and digested without difficulty; but as the parents justly observed, all the aliment she received seemed to be expended in the development of the disease, rather than in the nourishment of the body.

The treatment of the case consisted principally in topical applications; but these had not the slightest influence in arresting the progress of the disease, or alleviating the sufferings of the patient.

The morning after the death of the patient, the following examination was made.

The body was found in a state of great emaciation. The leg and foot of the diseased limb were œdematous and considerably swoln. The tumour, as to form, size, and colour, is accurately delineated in the accompanying drawing, Pl. I. It involved the whole thigh, and extended down over the knee-joint, measuring in length fifteen inches, in diameter twelve inches, and in circumference three feet. By a horizontal section about one-third of the tumour was removed, by which its internal structure was clearly brought to view. On careful examination it was found that every tissue which entered into the structure of the thigh, had undergone an entire change in organization, and had assumed all the characters of the morbid growth, except the fascia lata, and this was greatly thickened. On the anterior part of the thigh a large cavity was found, containing about twenty-four ounces of fluid resembling olive oil, its walls thick and cartilaginous, with osseous depositions. On the posterior part of the thigh, corresponding with the cavity just described, was a hard tumour, several inches in diameter, apparently composed of condensed cellular substance, with cartilaginous structure and osseous matter. This, together with the cavity already mentioned, constituted about one-fourth of the tumour. The remaining three-fourths, resembled in colour and consistence, the medullary substance of the brain, irregularly intermingled with cortical matter.

This mass was intersected by numerous membranous septa, formed probably originally of cellular substance. There were also numerous sinuses running in different directions, containing viscid sanies, and their walls formed of a dark-coloured membrane, apparently the inter-muscular fascia, much thickened.

The shaft of the bone was also extensively diseased. It was enlarged, spongy, and flattened, and had many small spiculæ projecting from it. It was fractured about four inches from the head, which I was informed happened after death, in attempting to move the limb. The extremities of the bone were sound, and the structure of the hip and knee-joints not in the slightest degree changed by the disease, although the tumour enveloped both.

Washington, D. C. May, 1830.

Art. II. *On the Use of the Warm Bath in Season Fever, commonly called "Bilious," "Bilious Typhus," &c. &c.* By Thomas H. Wright, M. D. Physician to the Baltimore Alms-house Infirmary.

WHILE those districts or localities in our vicinity, which are usually the principal theatres of autumnal fevers, were less visited by those diseases last fall, than hitherto, the cases of fever from season causes, admitted into the wards of the Baltimore Alms-house, in the months of September, October, and November, 1829, were more numerous, and of more grave character, than in former years. This seeming inconsistency is susceptible of explanation, in the fact, that the great public works, now in active operation around us, (rail-roads, canals, and works of a more local character, but of considerable magnitude, all recently undertaken,) have called together and concentrated in this neighbourhood, a new and large body of labourers of all classes, constitutions, and habits. Emigrants from Europe just landed on our shores, and full of the constitutional elements of febrile elaboration in a new climate—the mechanics of our towns and villages, accustomed to shelter from the weather—and the farmer from higher and healthier regions of the country, have all rushed together on the line of these public works, to encounter the vicissitudes of season, and all the evils of exposure, in situations hitherto avoided at one period of the year, as the peculiar theatres of pestilence and death.* But it is not alone exposure to the sun, and rains, and dews, and noisome exhalations of our sickly season, that rendered those works the fruitful sources of disease. Hard work, hot suns, chilling damps, &c. have done their part in producing febrile ferment; yet greater and more serious has been the preparative operation of other causes connected with the prosecution of those works, on the health of those engaged in them. Hard drinking, gross and unwholesome food, the foul hovels in which multitudes herded together at night, and the prevalence of licentiousness and debaucheries of every kind, these are the causes which rendered climate influences so sure, and their consequences so terrible, to the class of persons described, and which filled all the asylums of the homeless sick, in this community, with the subjects of season fever, in all its forms and complications.

It is not the design of this communication to describe in detail the characters or treatment of the fever in question. The subject is introduced mainly for the purpose of submitting to the profession, the general result of a course of management, worthy of notice for its simplicity, and of value on that account, if at the same time, the evidence is satisfactory, that it was equally successful, with any other plan of treatment that could have been employed. To keep this question as much as possible free of all appearance of partial representation, I have abstained from offering any opinions or inferences of my own on the subject, and have asked of the respectable young medical gentlemen who resided in the house, and personally carried on the detail of treatment, answers to certain queries, comprehending every thing important or illustrative in relation to the course pursued. A just confidence in the liberality of the profession, forbids the anticipation of any objection to the report of the class of students, on the ground that their answers may wear a complexion more of courtesy to my wishes, than of conviction on their own part. It is not from apprehension of such objection, but from my own sense of propriety, I take occasion to remark, that when the queries were addressed to them, they were requested to frame their answers by the independent and unbiassed dictates of their personal experience and observation. To another objection which might suggest itself, to even the most liberal and candid, in reference to those answers; namely, that coming from students of medicine, they want the sanction of age, experience, and capacity for discrimination. To such objection I may state, that the respondents are young gentlemen of talents, zeal, and discretion, worthy the science they cultivate; have been long—two and three years—engaged in the study of their profession; have been trained therein by able public teachers and private instructors; and are familiar with the opinions of books and men, on the pathology and treatment of the diseases, about which they offer the evidence of their own experience.

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* The works referred to, traverse for the most part alluvial districts, and keep as much as possible the ravines of our inland rivers and streams.

A copy of the following queries was handed to each of the resident students of the Baltimore Alms-house.

To R. J. Thompson, *Senior Student of the Baltimore Alms-house.*

Sir—Do me the favour to answer, as briefly, yet explicitly as possible, and entirely according to your experience and belief, the following queries.

T. H. WRIGHT.

December 1st, 1829.

1st. In the numerous cases of season fever, remittents, or the same, fallen into the continued type, which came into our wards during the past summer and fall, what single mean of treatment, seemed more than any other, to allay constitutional irritation, regulate temperature, quiet the tumult of the vascular system, tranquillize and comfort the patient, prepare for the beneficial effects of medicine, and thus predispose to convalescence?

2d. What manner of topical address did you find most efficient in abating and extinguishing gastric, hepatic, and cephalic derangements, complicated in various forms and intensity, with the cases of constitutional (season) fever above mentioned?

3d. What class or form of medicinal agents, appeared best to fulfil the indication of quieting irritation in the gastric system, and as sedatives, or febrifuge means, promoting the gradual extinction of fever?

4th. Of the cases of season fever, acute, congestive, typhoid, &c. with various complications, treated by you on the general plan indicated by the answers to the preceding questions, what proportion recovered?

5th. Of those that recovered, what proportion were treated by mercury, or took mercury at all in any form?

6th. Of the cases of the fever in question, that were brought to us under full mercurial action, what influence did the constitutional impression of that agent seem to have exerted over the characteristic form of fever?

7th. Did salivation in those cases, appear to have prepared the system for the solution of season fever; did those cases recover more promptly and perfectly, than others where mercury had not been taken?

8th. Did you know of any instance of season fever, treated in our wards, where the warm bath, however frequently repeated, seemed to relax or depress dangerously, or produced any bad consequence?

Answers to the foregoing queries. By R. J. Thompson, *Senior student.*

To Quere 1st.—"The warm bath.

2d.—"Liberal cupping.

3d.—"Mild febrifuges, (aperients of neutral salts and magnesia, and saline diaphoretic mixtures,) with acidulous and diluent drinks exhibited ad libitum.

4th.—"Of fifteen decidedly marked cases, excluding many less violent, three died. One of these was brought in moribund, another was deeply affected by icterus, the third was labouring under the low grade of fever, complicated with severe syphilitic disease.

5th.—"I administered mercury to two cases only: one of those was mentioned above as being complicated with icterus. The other case appeared to be benefited by calomel, combined with other purgatives, and it was thus exhibited.

6th.—"The 'mercurial action' appeared to have aggravated constitutional (febrile) irritation.

7th.—"Salivation did *not* appear to have prepared the system for the solution of the season fever; and in the cases most vividly in my remembrance, it seemed to have rendered the cure more embarrassing.

8th.—"I remember no such case; but on the contrary, believe I had reason always to felicitate myself upon its employment. Its use was looked upon by all the resident students as highly necessary in our mode of treatment."

Answers to the same. By A. F. Glassell, *Resident student.*

To Quere 1st.—"The warm bath.

2d.—"Cups and blisters, especially cups.

3d.—"Diaphoretics, (with aperients, magnesia, Epsom salt, carbo ligni.) The alkaline salts in combination with the vegetable acids, generally in the form of the neutral mixture.* Acidulated drinks freely.

4th.—"I treated eight severe cases with the remedies above indicated; seven of them recovered.

5th.—"Not one of those who recovered took mercury in any form. I treated one patient with calomel, (in purgative and febrifuge doses,)—he died.

6th.—"Mercurial impression protracted fever by augmenting the irritability of the system.

7th.—"In no instance did the state of salivation appear to prepare for a favourable crisis, and always delayed recovery.

8th.—"The warm bath never, to my knowledge, produced dangerous debility. Some patients expressed the sensations produced by the bath as pleasurable, and requested its repetition. All felt relieved.

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* Lemon juice saturated with subcarbonate of potash, sugar, water, and one grain of tartar emetic to four ounces of the mixture.

Answers to the same. By A. L. Warner, M. D. *Resident student.*

To Quere 1*st.*—" The warm bath.
2*d.*—" Cupping freely.
3*d.*—" Carbon and carb. magnesia in purgative doses. Neutral mixture. Warm antimoniated lemonade.
4*th.*—" Twenty-three cases of season fever, with gastric, and other complications, were treated by me, of which number three died. Two were delivered to us in nearly the dying state.
5*th.*—" I did not administer mercury in any case.
6*th.*—" Aggravated the gastric symptoms, and rendered the condition of the patient more embarrassed and distressing.
7*th.*—" The 'mercurial impression' appeared to postpone convalescence.
8*th.*—" The warm bath did not in any instance exhaust or depress injuriously. The patients uniformly expressed great improvement in their feelings, and in many cases spontaneously solicited its repetition."

This paper is in no respect controversial. The whole design of the communication is expressed in the remark before made, "that it was intended to submit to the profession the result of a plan of treatment in some bad forms of fever, (from season causes,) valuable for its simplicity—if found to be successful." I have offered the best evidence on that head which the nature of the subject admits.

Neither is it contemplated by this report to decry the employment of mercury in fevers, when the form of the disease, and the constitutional or pathological circumstances, are adapted to its use. I know, and appreciate highly, the value of the mean in question. In inflammatory, or congesto-inflammatory diseases, when it is indicated to lower the grade of excitement, and avert or abolish embarrassments of important structures, mercury, (in alliance with the lancet,) by its relaxing dominion over the vascular functions, is capable of accomplishing results, alike great and salutary. And again, when diseases of the class described, prolonged into a more chronic form, have impressed derangements of structure and office, the same agent is often capable gradually to dissolve such derangements, and restore both the part and the constitution to healthful reaction. But it is not, (I conceive,) in any of the forms of constitutional fever, characterized at once by weakness and tumult, or complicated with strong pathological developments—profound irritative disorder—in the vital and assimilating functions, that the decided relaxing impression of mercury is often either necessary or safe. Neither in such cases is the accumulative excitant influence of its continuous, though less full exhibition, likely to ensure a salutary crisis.

The following communication from Doctor A. L. Warner, is appended to show in general the character of the fever to which the preceding questions and answers apply:—

" *Alms-house, December 20th,* 1829.

" Doctor T. H. Wright,

" *Dear Sir*—You requested me to furnish a statement of the number of cases treated for season fever in the house, during the past summer and autumn, which I have neglected to this time, and must urge as apology, many intervening engagements.

" I have consulted the register of the house, as to the number, and by the assistance of memory, with my notes, I am enabled to descriminate the type.

" The number of violent cases of the fever, termed by us, gastric fever, was *thirty-five*—of the less violent cases, eighteen—together, fifty-three. Eleven cases proved fatal, *seven* of which cannot be said to have been treated, as they were brought to the house scarcely alive.

" The prominent feature of this disease was great irritation of the vascular, gastric, hepatic, enteritic, and encephalic systems. One of two conditions appertained in all the urgent forms of this disease. Either great restlessness, or a total listlessness of all surrounding objects, the patient in the latter case, lying on the back, eyes closed, and mouth wide open.

" *Symptoms.*—Supersensitiveness over the abdomen, particularly in the epigastrium; great nausea often; sometimes spontaneous vomitings.* Face flushed, (sometimes deep sallow,) and countenance anxious; respiration deep and slow, or short and hurried; tongue dry, and covered with a brown sordes, with deep red edges and tip; pulse, according to the stage, full, large, slow, quick, indistinct, but never the firm corded pulse of true phlegmasia, establishing an important pathological fact, that the tense corded pulse belongs to inflammatory derangement in the serous and fibrous tissues; the free soft pulse, (with fever,) to irritation in the mucous membranes; coma, more or less profound, was common; sometimes fretfulness of mind, and tossing from side to side. In several cases, supersensitiveness all over the body, but particularly along the muscles on the posterior part of the neck.

" Extensive spontaneous sloughing† was established in the early stage of the disease in some cases; in others, various cutaneous eruptions burst forth.‡

" *Treatment.*—Warm bath; mild purgatives, (carbon, and carb. magnesiæ, and Epsom salt, the former mainly,) neutral mixture, lemonade, and cups, (to the abdomen and head,) and if resorted to timely, was almost specific for gastric and constitutional irritation. I am aware you ascribe most importance to the warm bath, of the value of which I had daily proofs, but if restricted to any one prescription, I should select the carbonaceous and magnesian purgative, from the fact that many of the less violent cases, decidedly gastric, were promptly relieved by this medicine, with acidulous drinks. As to the severity of this disease, there can be no doubt. I have been raised in a section of our city, where season fevers annually prevail with great violence, but never before saw the disease in so dreadful and terrific a form as in our wards, during the past fall.

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* Deep green or blackish viscous matter, sometimes in large quantity, was passed by vomiting and stools, and found in the stomach and bowels of those dying of the fever.—W

† Patches of surface inflammation, (erythemoid,) were very common in the fever described, often occurring to parts affected by pressure in lying, but frequently also in seats not influenced by pressure, the top of the shoulder, the forearm, and feet. These partial inflammations often ended in extensive, sometimes deep sloughing, "erythema gangrenosum."—W.

‡ Erythematic and urticarious rashes, (lichen,) purpura, and blebs, or phlyctenæ, often large, especially on the abdomen, and filled with bloody serum.—W.

"One point of the pathology of the disease, (frequently referred to by you, when indicating the phenomena of the cases,) is doubtless correct, to wit, spinal and cerebro-spinal developments, (irritation, congestion, and tendency to infiltration,) in the tunics of the medulla oblongata and spinalis. But that result, (as you suggest,) attends the mature stage of the disease, and appears to be often a consequence of irritation propagated from other seats; the nervous system of the gastro-intestinal membrane. Daily recurrence to the symptoms in some of the most violent cases, suggests the fact of spinal embarrassment; for instance, embarrassed breathing was a prominent feature in the urgent forms, often at an early period. Spasms of the muscles of the neck, shoulders, and arms, was another common symptom. Hiccough* was another feature of the disease, which some may regard as the consequence of gastric irritation, but I presume it may indicate irritation at the root of the respiratory system of nerves, (par vagum, phrenic, and accessory,) for if attributable solely to the former cause, it should be an earlier and more uniform attendant If expression is dependent on nervous influence, anxiety and disorder of countenance affords another argument. This, with jactitation, and unconscious shrugging of the shoulders, strongly import spinal irritation.

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* *Hiccough.*—A robust man was brought into the Infirmary, with the following symptoms.—Partial stupor, sensible when roused, but generally dozing, and indifferent to every thing. Face dark-red suffusion; tongue deep-flesh red, dry polish on the surface, could with difficulty, from dryness, be in part put out. Surface of the body dry, cold; pulse small, thready, not very quick. This man had, every minute, convulsive hiccough, so strong as to jerk his whole body, and to ring through the ward with a loud echo. The hiccough frequently raised into his mouth, and forced him to discharge by an act, partly of spitting and vomiting, a green slimy matter resembling the juice of fresh masticated leeks or grass. He was treated by the warm bath, cups to the epigastrium, blisters, renewed over and around the region of the stomach; internally, the free exhibition of carbon and magnesia, and the effervescing draught with a few drops—five at a dose—of tinct. opii. The hiccough lasted without intermission, for two days, slowly decreasing in force; then intermitted for some hours, and was renewed more weakly, until the evening of the third day, when it ceased altogether, and the man got rapidly well. Increasing the dose of magnesia was found to exert decided abating controul over the hiccough, and when it purged freely, all the symptoms were relieved. The stools for three days were black green.—W.

"In stating the above number of cases, I have been confined to those distinguished by prominent gastric symptoms. The milder cases, intermittents of the regular or complicate form, by the register, exceed one hundred, all of which have recovered, or are now convalescent. Twenty-two of these cases, more or less complicated when admitted, with visceritis, (subacute,) were treated by myself. Of this number, not one was put on the use of any of the mercurial preparations. The treatment was local and constitutional; cups and blisters repeated in many cases. General treatment, repeated moderate purging, vomiting, and diaphoresis; bland drinks, and simple farinaceous food. When a tonic was employed, it consisted of sulphate of quinine, combined with an alkali, which in most instances kept up a gentle action of the bowels.

"I have appended an outline of Oliphant's case.—Peter Oliphant, (labourer on the rail-road,) was admitted into this house, Sept. 10th.—State when admitted, partly comatose, countenance sallow; deep and slow inspiration. Head somewhat retracted, spasmodic shrugging of the shoulders, and twitching of the muscles of the face and neck; pulse small and weak, not frequent. The integuments on the back of the neck and between the shoulders, red and puffy; great sensibility, (shrinking,) to pressure over the surface of the body, particularly on the back of the neck. On raising this man up, (to examine the neck and back,) after he had been in bed a few hours, a perfectly limpid fluid ran from both ears, amounting in quantity to a drachm; a circumstance the more remarkable, as there was nothing like moisture on the surface of the body.

"This case you pronounced to be season fever in its mature stage; in which arachno-spinitis was fully developed. The state of the patient when admitted did not allow a hope of recovery; he was attended to carefully—but died in a few days.

"Dissection twelve* hours after death. An incision was made in the course of the spine from the occiput to the sacrum, when the nature of the infiltration in the back was explained. Diffuse inflammation of the cellular tissue, had ended in suppuration, and the skin of the back was extensively detached by a puriform fluid amounting in quantity to many ounces. The spinal canal was then opened. The dura mater of the spinal chord was extensively separated, and loaded by effusion;† blood was extravasated at many points, especially about the roots of the intervertebral, (cervical and dorsal,) nerves.‡ The whole spinal chord was enveloped in a web of congested vessels; and small vessels finely injected could be seen abundantly traversing the nerves after their exit from the spine.

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* Instructions had been given, that shortly after death the subject should be turned on the face, to prevent as much as possible, the state of the cerebro-spinal membranes from being disguised by post mortem infiltrations.—W.

† Two or three large vesicular formations, (bullæ,) of the arachnoid coat, were strikingly prominent on the cervical tract of the chord.—W.

‡ The roots of all the cervical nerves, (those of the spine,) were covered by a clot of blood extravasated into the cellular tissue of the chord. The ligamentum denticulatum was strongly dyed—(blackened)—by the same infiltration.—W.

"Encephalon—Base of the brain enveloped in fluid.* All the tunics of the brain, the arachnoid particularly, tinged red, and their vessels minutely injected.—Stomach—Mucous coat studded with deep red patches."

Baltimore, Dec. 1829.

Art. III. *Case of Elephantiasis of the Scrotum successfully extirpated.* By W. H. Ruan, M. D. of St. Croix. (Communicated in a letter to John Ruan, M. D. of Philadelphia.)

THE following case will probably be considered interesting, especially from the enormous size of the mass extirpated.

The subject of the operation was a negro lad, about nineteen years of age, named Moses, living on the estate La Grange, the property of the heirs of Count Schimmelmann. He had been afflicted, from his early boyhood, by repeated attacks of an erysipelatous inflammation of the scrotum, penis, and surrounding skin and cellular substance, which very soon produced an elephantiasis of those parts. This enlargement continued to increase, and to spread further on the inferior part of the abdomen, on both groins, and on the upper, anterior, and interior surfaces of both thighs. The growth of the tumour was said, by those who were in the habit of observing it almost daily, to have been most rapid during the twelve months immediately preceding the operation. At the time when I was requested to examine the case, the tumour presented a most unwieldy mass of a globular form, reaching three or four inches below the knee-joint, of a diameter of eighteen or twenty inches, and possessing distinctly all the external characteristics of elephantiasis. These last have been so well and so frequently described by authors on the diseases of tropical climates, that I need not here enumerate them. The diseased prepuce, enlarged to the size of a goose's egg, and of an irregular cauliflower appearance, was situated nearly in the middle of the anterior surface of the tumour. No other trace of a penis was perceptible. This organ, as well as the testes, were imbedded so deeply in the body of the tumour, that they could not be felt by the hand. The spermatic cords, however, could be distinguished, by grasping the part very firmly high up; and I felt convinced, by an attentive examination, as well as by the history which was given to me of the case by intelligent individuals, that although the cords themselves were diseased, yet that no hernia protruded at the inguinal rings. The inguinal glands were much enlarged. The patient could pass his urine freely, and ad libitum. His general health, except when under an inflammatory attack of the diseased parts, was good. He had, I need scarcely say, never enjoyed the sexual intercourse; not even the sexual appetite; and had for some time previously to my seeing him, been entreating to have the whole tumour removed by the knife.

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* When the theca vertebralis was opened just behind the great occipital hole, a watery fluid rushed out of the cranium—to the, (apparent,) amount of four or five ounces.—W.

As I felt convinced that the operation, if successful, would be the means of prolonging his life, and as the emasculation of a being in his diseased condition, could be of no ulterior consequence, I resolved on performing it. For this purpose he was conveyed up to the hospital of the estate La Grande Princesse, also the property of the heirs of Count Schimmelmann; this estate being much nearer to the place of my residence. During the first fortnight after his arrival at La Grande Princesse, he was directed to wash the diseased parts three times a day with soap and water, to take two or three doses of purgative medicine, and to use a mild vegetable diet.

Assisted by Dr. Jacobs of this town, (Christianstæd,) I proceeded to perform the operation on the 8th of November, 1828. On examining attentively the neck of the tumour, we found that very little sound skin could be employed in forming the lips of the wound, which it would be necessary to make in a circular direction around the neck; that the whole tumour was somewhat warmer than usual, and of a reddish hue, as if it were in a state of incipient inflammation. As we were of opinion that these circumstances were not of such consequence as to render any procrastination necessary, we proceeded to perform the operation forthwith. The patient was placed on his back on a table, his legs drawn up as in lithotomy, but without binding his wrists and ankles together. The tumour being turned up on his abdomen and chest, and held in that position, I commenced the operation by making an incision through the skin and part of the diseased subjacent cellular substance, in a circular direction, around a portion of the neck of the tumour, commencing at the perinæum. As I prolonged this external incision around the neck, I dissected out the diseased mass from under that part of the skin which was sound, and detached it from its firm adhesions to such parts of the unsound, as were required to form the lips of the wound. In this stage of the dissection, we found the bulb of the urethra so much displaced from its natural situation, and so imbedded in the disease, that we thought it best to continue the external incision of the neck of the tumour, and prosecute the dissection from above downwards; although, by this mode, the bleeding prevented us from seeing so distinctly the parts to be divided. I now removed the diseased substance from the lower part of the abdomen, from the pubes, and spermatic cords. A broad tape was next passed around each of the cords, so as to prevent hæmorrhage from their vessels. The latter were secured by ligatures immediately after their division, and the tapes were then removed. The patient complained of slight colic pains during the application of the tapes, but was instantly relieved on the removal of the latter. The tumour was next detached from under the skin of each groin, and of about three inches of the upper, interior, and anterior surfaces of each thigh. On prosecuting the dissection further, we discovered the dorsum penis at least five inches beneath the anterior surface of the tumour. The penis was divided transversely, and close to the bulb of the urethra. The dissection was then rapidly concluded by the removal of such diseased substance as had not already been removed in the first stage of the operation.

During the whole of the operation the patient was extremely restless, and on this account his suffering was prolonged to three times the duration that would have been necessary, could he have been persuaded to remain tolerably quiet. It was unavoidably, however, a tedious dissection. Arteries of considerable size and number, sprung at every cut of the knife; and it was indispensably necessary to secure these, either by pressure with the finger, or by ligature, before we could proceed. Many arteries that appeared of considerable size from the first jet of blood which they threw out, contracted after a little pressure with the finger, and ceased to bleed. It was ultimately necessary, however, to secure eleven of them by ligatures. The veins of the tumour, as in almost all cases of elephantiasis, were very much enlarged, and in a varicose state. Two of them required ligatures during the dissection. The testes and penis were placed very nearly in the centre of the tumour. The spermatic cords, from the epididymis to the inguinal rings, were each eight inches in length, and much thickened. The testes were somewhat wasted away, and diminished from their natural size. The tunicæ vaginales contained about four ounces of serum. Strong, ligamentous bands, connected the tumour with, and bound it to, the adjacent bones of the pelvis. The penis was much displaced, running out in a line at a right angle from the ascending ramus of the ischium and towards the centre of the tumour; and was much elongated and very slender; so that the bulb of the urethra projected at least an inch and a half beyond the ischium.

The incision through the neck of the tumour presented, when the latter was entirely removed, a flat surface of a circular form, and nine inches in diameter. That the penis and testes were so much displaced, and that the spermatic cords were so much elongated, will be no matter of surprise, when I inform you that the tumour, some time after it had been removed, and after at least two pounds of bloody serum had oozed from it, weighed, (in the presence of several gentlemen,) thirty-eight pounds. This enormous mass, when cut into, presented throughout its whole bulk, the usual peculiar appearances observed in the skin and cellular tissue in all cases of elephantiasis.

At the conclusion of the operation, the patient was much exhausted; but this proceeded evidently more from pain, and the struggles which he had made, than from loss of blood. Of the latter, he did not lose more than eighteen or twenty ounces; a quantity too inconsiderable to have produced such an effect upon his robust frame. By administering to him a few drops of laudanum and some Madeira wine, his strength rallied, and enabled us to proceed with the dressing of the wound. A female catheter having been introduced into the bladder, the edges of the wound were brought very nearly together from either side, by approximating the thighs to each other, and were retained in that situation by five stitches of strong thread. The dressing was then completed by laying on some lint and a few pledgets of soft linen; and by retaining these in their situation by means of a T-bandage, through which an aperture was made to allow the projecting part of the catheter to pass. The thighs being bound close to each other, the patient was put to bed. His pulse had now resumed its usual strength and frequency; and he expressed much satisfaction at his having got rid of such a load of disease.

The urine, during his recovery, was drawn off regularly three times a day, by means of the female catheter, which was kept in the bladder during the healing of the wound. No unpleasant symptom whatever occurring, the dressings were not removed until the fourth day. On examining the wound at this time, I found three small patches of the diseased skin sloughing off near the stitches over the pubes: the rest of the wound, (particularly that which was situated between the orifice of the urethra and the anus,) looked healthy. He had had slight feverish symptoms during the first and second day from the operation; but these had now entirely left him. He said that he felt well, and in good spirits. I cut out the stitches in the vicinity of the sloughs, and directed that a warm bread poultice should be applied, and repeated four times a day to them; that the rest of the wound be dressed with lint; that his bowels be kept moderately open, by the use, occasionally, of small doses of Glauber's salt, and that he have a generous diet.

On the twenty-second day after the operation, all the ligatures had come away from the blood-vessels, the stitches had been removed, and the whole aspect of the wound was florid and healthy. By continuing nearly the same treatment, and by confining him constantly to the recumbent posture, the wound finally healed in its whole extent, in about eight weeks after the operation; forming a cicatrix running in a direct line from the upper part of the symphysis pubis towards the anus.

On the 26th of January, 1829, Moses returned to his work on the estate La Grange.

St. Croix, February, 1830.

Art. IV. *On Rhubarb in Hæmorrhoids.* By Samuel Jackson, M. D. of Northumberland.

Dr. Rush was accustomed to observe in his lectures, that we needed no new medicines, and that improvements in the materia medica were rather to be expected from a more careful investigation of the virtues and doses of those we already possess, than from a further extension of the catalogue. Though we cannot accede to this proposition in its full extent, we are well assured that much is yet to be learned, concerning the latent virtues of many remedial agents; nor do we despair of living to see the time when calomel shall be made to exert all its various virtues without inflaming the mouth, and when tartar emetic shall annihilate fevers without the danger of nausea. Whoever, indeed, shall consider the many new and unexpected uses of these truly polychrest medicines, which have been brought to light within the last ten years, will not be unwilling to admit that something new may be hoped for in every potent article of the materia medica. Nor ought this to be considered as a barren field of inquiry, for this department of medicine has made but little progress since the days of Cullen, as though the extreme medical scepticism of the great man had damped the ardour of all his successors.

It has fallen to our lot during eighteen years practice, to treat an unexpected number of hæmorrhoidal cases, and we have therefore sought diligently for the best means of opening the bowels, in this troublesome and painful disease. In our early practice, too, we met with many cases among pregnant and puerperal women, in which, above all others, some prompt means of relief, and also some certain preventive, became a serious desideratum to the young practitioner. All the various laxatives recommended in books were repeatedly tried—none of them with entire satisfaction, and some with manifest injury. But we at length found in rhubarb a medicine, which, in our hands, has entirely superseded every other; and we have for the last seven years prescribed it, not only for the purpose of relieving, but also of preventing the disease when threatened, and even of absolutely curing it in its inveterate stages. Whence this knowledge was derived, we do not recollect; there is not a hint of it in any book that we have read, and therefore it is hoped that these few pages may be the means of relieving or of preventing a great amount of vexation and pain.

In the treatment of this disease, the business of the physician is to preserve a continually loose state of the bowels, without the use of any drastic or acrimonious purgative; or in other words, to avoid on the one part, the least tendency to costiveness, and on the other, every thing like severe purging, or even a relaxing diarrhœa. Some means, therefore, he must seek, which shall procure, in some cases one, in others two or three, loose but consistent stools every twenty-four hours. The best medicine, beyond all comparison, that we have tried to answer this indication is rhubarb. A patient who is hæmorrhoidal and costive may chew a piece of the root every night—sometimes more, sometimes less frequently, but always so as to ensure one or more large loose stools every twenty-four hours. He ought to masticate it for at least fifteen or twenty minutes, and then to swallow the whole mass thus mixed with his saliva. If it prove very offensive at first, let him be assured that a taste for it may be as soon acquired as for tobacco, or some other uncongenial articles; so true is this, that I frequently meet my patients in the street, with a piece of rhubarb in the mouth, as we sometimes see persons with a quid of less wholesome medicine. If the patient chew it with his fore-teeth only, and confine the mass to the front of the mouth, it will prove less disagreeable than when diffused over a larger space. This is by far the best method of using rhubarb as a laxative, as ten grains thus chewed is more operative than five times this quantity taken in powder, and swallowed at once. Whether this is owing to the admixture of saliva is not known; Dr. Rush used to say that the medicine thus taken made a more diffusible impression on the system through the organ of taste. Cullen directs that the ligneous part should not be swallowed. "I have found that the purpose mentioned, (i. e. laxative,) may be obtained if the rhubarb is chewed in the mouth, and no more is swallowed than what the saliva has dissolved. In that case it appears to me that the astringent quality is not largely extracted, and therefore the cathartic will operate as required." This supposed separation of the astringent from the laxative principle, we suspect is erroneous—let the chewers of rhubarb decide for themselves.

This medicine then, *as far as laxatives are needed,* we confidently recommend in hæmorrhoids, as a remedy of surprising efficacy;[*] and if any competent physician, upon fair experience, shall find himsel disappointed, he is desired to pass over any thing we may hereafter publish.

It is not pretended, however, that rhubarb will cure every bad or inveterate case, or that it is not to be occasionally assisted by various means. One important coadjuvant is a laxative diet, and the most necessary article of this is bread made of unbolted flour.[*] Nor can the knife or ligatures be always dispensed with—a severe, but very often a sure means of relief.

Independent of those large tumours, about which surgeons have written so much, there often occur some that are small, but excessively painful, and of a purple colour, denoting that they contain extravasated blood. Upon making an incision into these, a hard nucleus of blood starts forth, or can be gently pressed out, and by the consequent removal of tension, as well as by the subsequent hæmorrhage, a large portion of suffering is prevented. But if the base of these tumours are small, we rescind them with one stroke of the scissors, which is by far the best method of effecting a radical cure. These tumours, containing nuclei of extravasated blood, are not, to our present recollection, described in books, yet they must have been continually coming under the care of physicians, who have passed them over in the hurry of composition, upon the principle, that "what is known is not always present."

For the prevention and cure of hæmorrhoids in puerperal women, we have found in rhubarb a medicine of inestimable value. As a laxative during pregnancy, it is the very best medicine we have tried. In this state of the system, we are certain that many, very many women, unwittingly suffer severely from costiveness, and thus prepare for themselves a hard labour, a protrusion of hæmorrhoidal tumours, a feverish confinement, with a greater tendency to nearly all the complaints which are incident to the puerperal state. It is not enough that during the last months of pregnancy, a free stool shall be procured once in the twenty-four hours. Most women have an inordinate appetite during this period, and they are with infinite difficulty restrained from eating too freely; nay, they are often encouraged to do so, under the opinion that the fœtus is to be nourished, as well as the mother. On this point the practitioner ought to be on his guard, for the consequence is, that they become loaded with offensive feculent matter, which produces restless, feverish nights, œdematous limbs, if not a general anasarca, dyspnœa, and very frequently the most painful hæmorrhoidal tumours. All these evils may be prevented—not by using rhubarb as a mere laxative, but by chewing it in such quantities, as to produce free and thorough catharsis every day. It is true, the lancet and exercise in the open air, particularly in a carriage, are called for; but purging—copious purging, cannot or ought not to be dispensed with.

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[*] This is the household bread of the English; the *panis impurus vel furfuraceus,* which, according to Pliny, the Romans used exclusively for more than three hundred years; it is the common bread of the hardy Westphalian peasantry; it is commended as a laxative by Hippocrates; the ancient *luctatores* used no other; and if we are not very greatly mistaken, there is hardly a condition of the human body to which it is not more congenial than the *white bread.*

If the hæmorrhoidal patient suffer from heart-burn, let her not taste magnesia. She may use super-carbonate of soda or of potash, but never magnesia, for reasons which we shall mention below. If hæmorrhoids are found after delivery, let the practitioner replace them immediately if he can do it without too much violence, and the nurse or the woman herself ought to be instructed to do it, if they subsequently come down. But the operation must be done in the most effectual manner—idioque digitus in anum placidè inserumdus est.

It is common to prescribe some neutral salt or castor oil as a purgative during the period of child-bed; but if there be the least tendency to hæmorrhoids, the chewing of rhubarb is far better. In this state, however, it must be used in larger doses, as well as more frequently, and when it is expected to operate the first time after delivery, a bland enema ought to be administered. If hæmorrhoids again protrude, they ought to be replaced, and some emollient ointment used. By these little precautions, which are neither troublesome nor painful, a large amount of the most severe suffering may be prevented.

In what we have here written on the use of this medicine, we have not the least fear of contradiction from the experience of others, provided they administer it with sufficient freedom. One thing must be observed—it may prove necessary, in some constitutions, to modify its operation with a little ginger, caraway, fennel, or some other aromatic, and in those habits that admit of spirits, the Warner's cordial is an excellent preparation. It is observed by Dr. Chapman, *Therapeutics, Vol. I. p.* 252, that laudanum does not prevent the operation of this medicine. On this proposition we have not had sufficient experience, but Hartshorne's acetated tincture of opium, which we commonly use instead of common laudanum, seldom induces costiveness under any circumstances, and therefore it may be given to prevent the griping pains that rhubarb induces in some constitutions. This is prepared according to a recipe in the *Philadelphia Journal, Vol. XIV. p.* 246. Turkey opium, ℥j.; strong vinegar, ℥vi.; alcohol, ℥iv. Triturate the opium with the vinegar, add the alcohol, and digest for ten days, (or longer.)

This is a substitute for the uncertain preparation *black drop*, and is supposed to be suitable to those constitutions on which laudanum and common opium operate in a well known unfriendly manner. This proposition is true in part only, for while it comforts some of these excitable persons, it distresses others in the usual way of common laudanum. Here then we have the most happy resource in the denarcotized opium, which we confidently believe, from much experience, brings comfort to all. But, "nil omni parte beatum," it occasions costiveness like common laudanum. Whether this evil, with all the rest, is avoided by Carpenter's acidified tincture of denarcotized opium, we have not satisfactorily ascertained; but from some experience we are ready to believe that it is the best preparation of opium now before the public.*

As we have set about writing what we have learned from experience, and not from others, we shall mention another useful means of preventing the disease. When the rectum is known to be loaded with hardened fæces, the hæmorrhoidal patient ought always to soften the mass with an enema of warm-water, and to dilate the passage with his finger covered with pomatum or some bland ointment. These means we have often recommended, to the great comfort of those afflicted with a contracted and sore state of the anus from hæmorrhoids.

The old and almost established opinion, that aloes are pernicious in this disease, has lately been so far controverted in London, that this medicine is now given both as a preventive and cure. From our own observations, we are rather inclined to the old prejudice, but cannot positively decide. Among the worst purges in this disease, is calomel and its compounds. We have known persons who could not take five grains, without suffering from it the most painful hæmorrhoids; but of all cathartics, the magnesia is to be avoided with the greatest care, and particularly the calcined. It produces a sensation of intolerable ardor as it passes through the rectum; so great that patients have even resorted to the use of cold water to allay it. This burning is supposed by a most talented man, and a competent observer, to be owing to an uncombined acid passing through the rectum.* This we have many reasons to believe, is entirely erroneous—let experience decide.

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* See Philadelphia Journal, Vol. XIV. p. 244.

It is commonly supposed that riding, and particularly on horseback, is bad for the piles. This, we are satisfied, is mere prejudice, and that it has no such effect, provided costiveness be carefully avoided. We have known persons who appeared half their time on horseback, some of full habits and free living, who yet knew nothing of this disease. Costiveness is probably always the direct or indirect, the remote or the exciting cause of hæmorrhoids. We have known many young ladies to suffer severely from it, who had never been on horseback, and seldom in a carriage, but who, in their mistaken conceptions of an elegant form, had destroyed their capacity for food by tight lacing, so far indeed that some of them would pass from five to twelve days without an alvine discharge. This we are desirous of mentioning, as young practitioners may be often deceived in these cases, and may indeed be unwilling to inquire very carefully into these delicate affairs; for, as Linnæus says, on a similar occasion, "harum rerum indagatio curiosior abominabilis est." He ought to be apprised too, that both parents and children will obstinately deny the fact of tight lacing, and this they may often do with a good conscience, since this tightness, like every thing else, is judged by comparison, and in this case, with minds by no means unbiassed.

If these hints of the virtues of rhubarb should prove the means of introducing it into general use, in the treatment and prevention of hæmorrhoids, we venture to predict that a great amount of pain will be thereby averted; nor can this fail to enhance the reputation of the medical attendant, since whatever physician is able to bring the greatest comfort with promptness and safety, will generally be esteemed the best. Let it be observed, however, that we propose rhubarb merely as a laxative in this disease, nor do we presume that it possesses any other anti-hæmorrhoidal virtue—of its accidental benefits in the same cases, we are not now treating; the reader has already learned them from various books and from experience—but if it possess no other than its laxative powers, we must contend that these are quite peculiar, and admirably adapted to the cure of hæmorrhoids. Costiveness is attended with such a multitudinous concatenation of evils, and rhubarb is so peculiar and salutary in this respect, that if any one is at all disposed not to pass a morning without a free evacuation, particularly if he be plethoric, bilious, gouty, in the decline of life, or the least disposed to hæmorrhoidal tumours, let him chew this medicine—I had almost said every day and night of his remaining life.

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* See Thomas Cooper, M. D. on Domestic Medicine.

Northumberland, Penn. May, 1830.

Art. V. *Observations on Mania a Potu.* By Jesse Carter, M. D. one of the Resident Physicians of the Philadelphia Alms-house Infirmary.

Among the varieties of mania which I have observed, none have arrested my attention, and interested my feelings so much as mania a potu. The history of this form of cerebral disease is short. Previously to the commencement of the present century, it was not known as a distinct affection; but was confounded with mania from other causes, and of course subjected to similar treatment. The mortality consequent to this error, was so great, that a very eminent physician despaired of the recovery of almost every case to which he was called. The first distinct account of it, was published by Dr. Pearson, of Newcastle, about 1801; it was subsequently described very succinctly and ably, by Dr. Sutton, whose experience appears to have been confined to the lighter grades of the disease. Since then, it has been variously described by numerous writers, particularly in our own country. A very elaborate essay on the subject, was published a few years since, by Dr. Coates of this city. It was with the unsettled and indistinct ideas, produced by the almost contradictory statements of different writers, that I undertook the charge of the cells of the Philadelphia Alms-house, where this disease is very common.

After a careful examination of the symptoms, and the modus operandi of the remedies employed, I became convinced, that writers had taken too limited views of the subject; that each plan was beneficial under particular circumstances, but that a combination of them, so as to suit the existing state of the system, was still more advantageous.

Having enjoyed an extensive opportunity of observing the disease, and of marking its progress, I am induced to offer for publication in this Journal, a few remarks upon its symptoms, pathology, and treatment.

The disease is generally preceded by irregularity of thought; deficiency of memory; anxiety to be in company; excessive peevishness; passions excited by the most trivial circumstances; the mind active and wandering from subject to subject. Objects exciting horror perpetually present; excessive nervous tremors; constant jactitation; slumbers short and interrupted by frightful dreams; which are followed by continued watchfulness, as the disease advances. The countenance is generally of a leaden hue; frequently flushed with indication of great anxiety. The eye is often muddy and dull, occasionally in violent cases injected; though generally it is not much affected. The state of the pupil varies; it is sometimes contracted, at others dilated, under apparently the same group of symptoms; the former state, however, is most frequently met with. The skin is differently affected, sometimes it is warm and dry, but usually cool and damp, and occasionally covered with profuse cold sweats. This state of the surface, is most frequently met with, among those who have been long accustomed to the excessive use of spirituous liquors.

The tongue is generally clean, though sometimes, when the primæ viæ are much deranged, it is coated with a yellow fur. In the latter stages of the disease, it becomes very dry and chopped. There is generally, preternatural heat about the head, attended occasionally with pain, oftener with fullness and heaviness. The pulse is commonly full, but compressible and not very frequent. In old drunkards, the pulse is small and undulating, and as the disease advances to a fatal termination, it becomes weaker and more frequent. In the commencement of the disease, the stomach is often considerably affected, which is indicated by a want of appetite, nausea, and sometimes vomiting, but as the mania becomes developed, the unpleasant sensations disappear. The bowels are confined, but rarely operated upon by medicines. The condition of the muscular system varies according to the state of the constitution. Those who have not been seriously injured, sometimes exhibit extraordinary instances of strength, whereas, in persons who have been long victims to intemperance, there is generally an agitation and unsteadiness in their movements, so as to indicate great weakness.

The state of the intellectual functions vary very much; patients who are robust, are occasionally very violent, rendering it necessary in some instances, to subject them to restraint; but those who are more advanced in years and have been long victims to excesses, are very easily managed. A patient labouring under this form of mania, is in a state of perpetual excitement, laughing and talking by turns incessantly. Frequently he will converse with his medical attendant, about his ordinary affairs with great precision, telling him that he has been constantly engaged in matters of high import; having visited several places since he saw him, though he has not moved out of his room. If he be contradicted in any of his phantasies, he adheres to them very pertinaciously, and becomes much enraged; but if he be dealt with kindly and soothingly, and his attention gained, he will generally reply to questions very correctly.

The cause of all this confusion of ideas, is the derangement of the faculty of perception; the judgment upon the subjects presented to it, is wonderfully correct. Observing on one occasion, a patient trembling in the corner of his cell, I asked him, what was the matter; to which he replied, that there was a rattlesnake under his bed, and that there were some persons who were trying to shoot it; and in order to escape being shot, he had left his bed, and taken refuge in that position. I have also seen a patient pressing against the wall, with his utmost force, in order, he said, to prevent its crushing him. The objects of delusion vary very much. Sometimes patients are annoyed by cats and mice; frequently by snakes; occasionally they imagine the devil has presented himself, and claimed them as his property. One of the patients perpetually saw some one at the window, wishing to shoot him. Writers on this subject, record many singular cases of aberration and self-delusion, the details of which are more curious than useful. Convulsions have not been very frequent to my observation. Out of nearly a hundred cases, there were not more than a dozen with epileptic symptoms, except when they were the immediate precursors of death.

The preceding is a short history of the disease in its simple form. It is, however, often complicated with other affections, particularly when it occurs during the hot season of the year, when it presents more decided marks of inflammation, and is much more difficult of management, and more fatal in its result, than at any other period. This condition in its early stage, is characterized by a pulse much more tense than usual; tongue red at the edges; often very dry and cracked; head-ache; less quickness of comprehension; eyes often injected; skin dry; delirium very violent. A second stage soon supervenes, when the skin is bedewed with cold clammy perspiration; pupils are contracted; pulse very frequent and almost imperceptible; low muttering delirium; with gastric symptoms of an aggravated and unmanageable character, which continue until death closes the scene.

Pathology.—In order to arrive at any definite ideas on this subject, it will be necessary to inquire into the causes of this disease, and their mode of action on the system. The predisposing causes are admitted by all writers to be the habitual use of diffusive stimuli; but more particularly of ardent spirits. The delirium of opium-eaters, is partially the same, only of a more aggravated character. The first impression of these stimuli is to excite the powers of life, to elevate the mind, and to render the imagination vivid. This excitement after a longer or shorter duration, is always followed by a state of depression; the system becomes weakened, the sensibilities blunted, and the spirits dejected. To escape from these uncomfortable sensations, the unhappy victim has again recourse to stimuli; this is again and again repeated, sometimes for several weeks; the patient during this state of almost perpetual intoxication, takes but little nourishment of any kind. The stomach so long accustomed to these excessive potations, at length requires their constant use, to enable it to perform its functions in the animal economy. Should the patient under these circumstances break off suddenly, and abstain altogether from his accustomed stimuli, the abrupt withdrawal of so much excitement, would weaken very much the general action of the system, producing very considerable exhaustion; but in every depression, nature makes an effort to react, so that shortly, there is developed preternatural action, particularly in the brain. The patient is in a state of perpetual watchfulness, the imagination is constantly employed in conjuring up objects which are not present; these hallucinations increase until mania a potu becomes fully developed. While the nervous system is in this state of excitement, the other organs of the body are more or less weakened, as is evinced by the softness of the pulse; the languid capillary circulation; the coldness and paleness of the surface, &c.

As the result of all my observations and reflections, I should say, that the disease consisted essentially in a morbid excitement of the brain, as is exemplified in the increased activity of its functions, with a depression of those of organic life. My limits will not permit me to enter into an examination of the theory which ascribes the disease to gastric origin, or the one lately advocated in Germany, of its consisting essentially of meningitis. As high authority may be adduced in favour and against these opinions, I feel a reluctance in adducing my own, particularly as the post mortem appearances presented in mania a potu, do not always satisfactorily illustrate the pathology of the disease.

Brain.—The dura mater is rarely inflamed; I have no recollection of having seen it in that state. The blood-vessels of the pia mater are augmented in size, and generally congested, especially those of the velum interpositum. The tunica arachnoidea is thickened, and presents an opaque appearance, especially at the base of the cerebellum. Effusions of serum are often found in the ventricles, generally colourless, though occasionally sero-sanguineous. When the vessels of the brain are much congested, effusion is rarely observed. The morbid phenomena vary very much; in one case, in a patient found in the street in a state of stupor, with the subsequent development of mania a potu, a coagulum was found in the anterior and middle lobes of the right hemisphere of the cerebrum, of an oval form, about two inches and a half by two. The substance of the brain around the coagulum, was grayish and diffluent. I have seen two or three cases of a similar kind, though not so extensive.

Stomach.—The mucous membrane is generally altered in structure, being thickened and smooth, the villi obliterated, with other marks of chronic gastritis.

Liver.—Is much enlarged, exhibiting frequently the fatty degeneration, often granulated, of a yellow or fawn-like colour. The structural alteration of these last-named organs, must be regarded as coincidences, rather than as illustrating the pathology of the complaint under consideration, since they occur in almost all diseases of habitual drunkards.

Diagnosis.—The peculiar symptoms of this disease are difficult to describe, but when once seen, they are never forgotten. An inquiry into the habits of the patient, the great activity of his mind, the constant perception of objects which are not present, the ease and docility with which he takes the medicine prescribed, and the respect and deference paid to his medical attendant—all these circumstances will enable us to recognise the disease without much difficulty. From the delirium of fever, it is distinguished by the suddenness of the attack, the patient a day or two previous being in apparent good health; from inflammation of the brain, by the more moderate degree of the attending fever; the pulse is softer; still more particularly by the absence of turgescence of the eyes, and impatience of light, which is so characteristic of the latter disease; from confirmed mania, by the regular exacerbation of the disease as night approaches, and the tendency to remit towards morning, the reverse of which takes place in regular mania.

Prognosis.—The first attack in a constitution not much shattered by disease, generally terminates favourably. But after the third attack, when the vital powers become very much weakened, the case is one which occasions great anxiety, requiring constant watching. In such patients, effusion on the brain is extremely apt to occur. When combined with inflammation of any of the vital organs, the prognosis is still more unfavourable. Convulsions are much to be apprehended; and with this complication almost all die. If the pupil be dilated or contracted, insensible to light; the eye wandering, and not resting upon any particular object, more imminent danger is threatened than merely from its injection. A want of correspondence in the pupils is universally fatal. Short disturbed slumbers, accompanied with subsultus tendinum from which the patient starts with affright and then falls into a low muttering delirium, are very unfavourable. Those who take opium in excess, are in greater danger than the mere drunkard. When there is constant increase of nervous tremors, pulse increasing in frequency, and at the same time becoming smaller and weaker, we may anticipate a fatal result. While, on the contrary, if the patient becomes quiet, and falls into a sound sleep, we may expect a recovery though even here I have been occasionally disappointed. The disease, as has been already stated, is much more violent and intense during hot weather than in more temperate seasons; though the mortality may be lessened by judicious practice, the proportion of fatal cases must always be greater. In the Philadelphia Alms-house, between the 1st of November, 1828, and the 1st of February following, out of seventy cases, there were only nine deaths, being a little more than one in eight. Whereas, between June 10th, 1829, and September 10th, following, out of seventy-five cases, there were eighteen fatal, being about the proportion of one to four.

Treatment.—When the first symptoms of mania a potu are beginning to be developed, attended with strange hallucinations, with great restlessness, but the patient still rational, all the unpleasant symptoms are occasionally dissipated by the timely employment of an anodyne, which, by inducing sleep, quiets the excessive action of the nervous system, and gives rest to the exhausted frame. To meet these indications, when the stomach would bear it, I have found the following combination very serviceable. ℞. Lac assafœtida, ℥vj.; acet. tinct. opii, ʒij. Of which a table-spoonful is to be given every hour or two, according to circumstances. Its action is very much assisted by the free use of the tincture of hops. After taking this remedy, the patient will often awake refreshed, but weakened from his long fast, and is soon restored to his usual health by tonics and generous diet. It is too often our unfortunate lot, however, not to see the patient, until the disease is fully formed, when we must have recourse to measures which produce a more powerful and permanent impression. Among these opium first claims our attention. The dreadful effects which followed the antiphlogistic treatment, when exclusively relied on, may be readily imagined, since the disease is found to be generally under the controul of such a powerful stimulo-narcotic as opium. Unhappily for the interests of humanity, physicians are too liable to run into extremes. Observing occasionally the surprising relief afforded by this remedy, they had recourse to it exclusively, without paying any regard to the existing state of the constitution. In consequence of this error, the mortality, though diminished, was still considerable. In the employment of such potent agents, there should be great caution and vigilance. The stomach, so long accustomed to the use of powerful stimulants, loses its tone sometimes in a very extraordinary degree, so as not to be immediately affected by the remedy, when given in very large doses. Suddenly, however, its sensibility is revived, and we are summoned to our patient, labouring under all the symptoms of poisoning from this drug.

In cases of simple mania, with great coolness of the surface, with soft pulse, unaccompanied by any preternatural heat of the scalp, I would rely on opium, combined with the free use of his accustomed stimulus. It is not often that such cases have been presented to my notice; those of the infirmary belonging to the lowest class, and who have been accustomed for years to excessive drinking. Hence all their organs are in a state of derangement, occasionally there is gastritis, pneumonitis, hepatitis, and even inflammation of the brain. These complications render its management still more difficult. Too often in such cases we are obliged to be mere spectators, being compelled to see death rapidly approach without possessing any means of arresting its progress. In most of such patients, opium would only hasten the termination. In cases where there is active determination of blood to the head, as is evinced by the excitement of the mind, heated state of the scalp, flushed face, and injected and rolling eye, I have found it impossible to produce sleep by the exclusive use of opium. The system is exhausted by excessive exertion, the eye will retain its restlessness and watchfulness, the voice becomes more enfeebled, symptoms of stupor and insensibility, with stertorous breathing supervene, and the patient expires in a fit of apoplexy, or else lingers for several days, and finally dies of effusion on the brain. If, on the contrary, the active state of the system had been reduced, the inordinate determination to the head diminished by general and local depletion, and revulsion to the abdominal viscera by means of active cathartics, together with free use of cold to the head, and then the opium employed, it would no doubt have been followed by the happiest effects, in calming the excitement and producing sleep.

There is no disease which I approach with so much dread as mania a potu; the uncertainty of success where it is most anticipated, and the occasional recoveries from apparently the most desperate circumstances, always occasions anxiety and solicitude to the physician.

It is stated by very high authority, that if we procure sound sleep all danger is at an end; but my observations have led me to a different conclusion, having repeatedly seen patients in the Alms-house, awake from a long and continued sleep, as delirious as ever, and the disease notwithstanding proceed to a fatal termination. From this view we are led to an erroneous practice, without any regard to the highly excited condition of the stomach and brain, which not unfrequently prevails; we proceed to the indiscriminate use of opium, which, as might readily be supposed, only aggravates the symptoms.

We are struck, while reading the records of medicine, with the omission of the effects of powerful remedies, when given imprudently. We find but few men who have sufficient moral courage to confess, that they have hastened the death of a fellow being by the excessive use of any remedy; hence the silence of authors, on the consequences of the exhibition of too much opium in mania a potu. Dr. Coates remarks, that there are no limits to its use until the desired effect is produced; that he has never seen, heard, or read of any injury resulting from such bold procedure. My own observation has repeatedly shown me the error of this view. I have often seen patients become worse after every dose of opium, whereas, when suspended, and the excitement of the head reduced, and the opium then resumed, sleep would readily be induced. I have no doubt of having witnessed several times, death hastened by the effects of opium. One case has made a distinct impression upon my memory. A young woman whom I saw in the evening, labouring under the disease in its most violent form, excessively delirious, eyes injected, and perpetually rolling, face flushed and scalp unusually hot. Opium was freely given during the night; next morning her eyes were fixed, breathing stertorous, subsultus tendinum, and in fine every symptom which authors describe as following the use of this drug, when taken too largely. It is singular that in every other disease, we inquire particularly into the state of the patient, and modify our treatment accordingly, but in this most formidable one, we throw aside all our usual principles of action and abandon ourselves to a blind and exclusive system of routine.

After a careful perusal of the treatment as recommended by Dr. Coates, the only distinct ideas left on my mind were that sleep was the sine qua non, and opium the only remedy which should be given without fear, until sleep or death takes place, without any regard to the state of the system. Such exclusive rules are always detrimental. Though I would be very cautious in the exhibition of opium, still I would trust to it as my sheet anchor. Other remedies may palliate and assist, yet without its judicious application, we shall seldom witness a happy termination. My object in the previous remarks is not to lessen the value of the remedy, but only to render us more prudent in its use, and attend more strictly to the state of the system; and also to recommend the employment of some adjuvants, which I have found to succeed in a very happy manner.

The quantity of opium which is necessary to be given, varies according to the condition of the patient. When the disease is fully developed, and the system is in a proper condition to bear it, it is necessary to begin with six grains, and repeat it in an hour; and then suspend it. When given in this decided manner, a very powerful impression is produced, and often the patient will fall to sleep in a few hours; but if this happy circumstance should not occur, and should excessive determination to the head exist, after reducing this excitement, I would recommence and pursue the same practice. I have no doubt that the exhibition of the remedy in this manner would save much time and uneasiness. When given in the small doses usually recommended, and continued at long intervals, we only keep up the excitement of the nervous system without the narcotic effects of the remedy being induced. The form which I generally prescribed was powdered opium. I occasionally employed the acetated tincture without any very evident advantage over the other. Besides, the strength of this menstruum is so variable as to forbid its general employment. I used it in a few cases in the form of an injection with decided benefit; the quantity prescribed was generally about one hundred drops, which was repeated when necessary. The salts of morphia have lately been employed with considerable success, but my experience of their utility is very limited; for as they were very expensive I did not feel myself at liberty to prescribe them often—but from the smallness of their dose, and their general operation on the system, I have but little doubt that they would constitute the preferable form for the exhibition of a narcotic.

Blood-letting.—Occurring as this disease generally does in persons whose constitutions have been wrecked, or very much shattered, the system exhausted by want of sustenance for several days, venesection is rarely demanded. The employment of it, in a majority of instances, would be extremely hazardous; and the practiser of so bold a measure, should rejoice if his patient did not speedily expire under the operation. Occasionally we encounter the disease in a young man who has not seriously injured himself by his habits, connected with considerable excitement, pulse possessing more than ordinary force, with great determination to the brain; I should not in such cases hesitate to bleed freely. Writers on this subject are too much haunted by that spectre debility; hence they condemn depletion of every kind. In these cases, where the general strength will not bear venesection, but with too much activity of the sanguineous system for the successful exhibition of opium, the application of cups or leeches to the temples, or behind the ears, by their direct depletion, relieves the determination, and quiets the inordinate action of the brain, rendering it more susceptible to the action of a narcotic. In fact, I have derived so much advantage from their employment, that I very rarely visited a case which would bear them without ordering either the one or the other; giving the preference generally to cups, as being more economical and convenient, and creating a more permanent irritation externally; and in no one case do I recollect of their application being unattended with benefit. By paying attention in this manner to the state of the system, I scarcely ever had any difficulty in producing sleep.

Cold applications.—The great sedative influence of cold has been generally recognised since the publication of the celebrated reports of Dr. Currie. When called to a patient very wild, with great heat of surface, and action in the head, the dashing of a few buckets of cold water over the head, if the constitution has strength to react, is exceedingly beneficial. Cloths wrung out of cold water are not less serviceable. The extremities should at the same time be stimulated by means of sinapisms. By pursuing these remedies, the increased cerebral action is diminished, the excitement of the system equalized, the patient is then prepared for a favourable exhibition of opium, and other stimulants, which, without this preparation, would only aggravate the disease. It is of much importance to attend to the peculiar character of this form of the complaint, and regulate the remedies accordingly.

Purgatives.—In this disease the absorbents of the mucous membrane of the primæ viæ appear to be so peculiarly inert, that by stimulating the intestines with mild cathartics, the susceptibility to the action of other remedies is greatly increased. The best practice usually is, at the commencement of the disease, if the patient's strength will warrant it, to give a dose of senna and sulph. magnesia, or a purgative injection. In those cases, where active determination to the head exists, I know of nothing more useful than a brisk cathartic, in subduing the inordinate action, by revulsion to the abdominal viscera. I have tried in several instances, the combination of calomel and opium without any material advantage, and with the effect, often of protracting the disease, and rendering the patient uncomfortable by a tedious sore mouth.

Blisters.—The use of blisters in this disease, as a general rule, is very questionable. In cases of much excitement, they are inferior to topical depletion, and frequently by their irritation increase the restlessness and watchfulness of the patient; but when the active stage is past, and there is considerable danger of effusion, their application to the back of the neck and extremities, is often followed by the happiest effects.

Ardent Spirits.—These are remedies which are generally too little recommended. Many physicians, under what I consider mistaken notions of morality, proscribe them altogether, not recollecting their obligations to use the most effectual means for the removal of the diseases of our frame. To prescribe them in this affection, does not sanction their employment in health, more than it does that of opium or any other remedies which may have been given. Individuals who have been so long accustomed to excessive potations, as to have incurred the usual penalty, (mania a potu) are fully sensible of the impropriety of their manner of living, and of the desolating effects of ardent spirits on their systems. They want moral courage, however, to resist the cravings of the stomach for this destructive poison. The remedies of their physician, whatever they may be, have therefore, but very little influence on the subsequent course of the patient. In many cases of great nervous excitement, ardent spirits, particularly in those patients accustomed to their use, have decided advantage over any form of opium, and under such circumstances, the most conscientious medical adviser, need not hesitate to sanction their use. From the pathological view of the disease taken in the preceding pages, it appears to be essentially connected with an exhaustion of the functions of organic life; this stimulus, by arousing its action, would break up the train of morbid associations, and have a tendency to bring about that happy balance which constitutes health.

Though, in this disease, reliance has generally been placed upon opium, yet there are some adjuvants, which, by producing a sedative action, may enable us to diminish advantageously, the enormous doses of this article. Among these camphor stands the highest. Its first impression is that of a stimulant, but the ultimate effect is narcotic. During my residence in the Alms-house, it was repeatedly tried without any evident advantage. Occasionally in opium-eaters it was very beneficial. I have found next to opium, assafœtida the most valuable remedy, and in those cases of gastric or cerebral excitement where opium is inadmissible, it is by far the most efficient agent; it calmed the patient, and produced little or no increased excitement. I order the lac assafœtida, as freely as the patient can bear it, and occasionally the substance; when there is great irritability of the stomach, I preferred it as an injection. Occasionally in old drunkards, when the system is much exhausted, the pulse small and tremulous, skin cold and moist, limbs very nervous, the use of the ammoniated julep every hour or two, according to circumstances, together with rubbing the surface with a decoction of cantharides and spirit of turpentine, have had a most salutary effect. This treatment increases the action of the capillaries, and gives vigour to the general circulation. Afterwards, the moderate use of opium produces sleep, and a consequent mitigation of all the maniacal symptoms.

When the mania subsides, the patient is very weak, and requires the support of a generous diet. Under such circumstances, I have found soup made very strong with Cayenne pepper, porter, and the occasional use of the patient's usual stimulus, with an anodyne in the morning, rapidly restore the patient to his usual health.

Before finally dismissing the subject, I will make a few remarks upon the modification which the treatment requires during the continuance of hot weather, for however appropriate the plan generally recommended may be, in the simple disease occurring during winter, it is necessary to be very cautious, in those cases which are met with during summer. Patients prematurely placed upon opium, or even after some previous preparation, very quickly pass into the second stage, or fall into a state of coma, which is but the precursor of death.

When the pulse is tense, countenance flushed, with head-ache, blood should be taken from the arm, but not very copiously. From eight to fourteen ounces is generally sufficient and free from danger; a greater quantity would probably occasion prostration. If gastric inflammation be present, cups, or what are more appropriate, leeches, should be applied to the epigastrium, and demulcent drinks freely administered—cups to the head should seldom be neglected in mania a potu; but in this form, topical depletion is imperiously necessary. Fomentations, with warm blankets, sinapisms to the extremities, and ice applied to the head, after being shaved, are very useful. No opium should be given during the continuance of these symptoms, but after their removal or mitigation, six grains of opium, and but once repeated, seem more successful than the frequent administration of smaller quantities, which latter in many instances, seem to have increased the tendency to effusion. This, however, is a point not entirely settled.

When a dry tongue occurs, even without great cerebral tendency, opium seems always to do mischief, by increasing the inflammation, which prevents its narcotic action. Calomel, or small quantities of blue mass, have sometimes seemed beneficial in exciting secretion, and removing the dryness of the tongue. Free purging, though very beneficial, when the head is alone affected, should be resorted to with much caution in inflammation of the stomach and intestines.

CASE 1.—Robert Peacock, æt. 35, had mania a potu once, has been drinking very hard for the last month, and slept out nearly every night. Admitted May 6th. Symptoms on admission were those of acute pleuritis connected with epileptic convulsions, (for the first time in his life,) which were relieved by cupping, blistering, purging, shaving the head, and constant application of cold water, with the occasional use of the following:—℞. Lac. assafœtida, ℥vj.; acet. tinct. opii, ʒij. But sleep not succeeding, on the third day mania a potu became developed.

9th. Is very wild, constantly imagines that there is a rattlesnake running across the room, and persons with guns endeavouring to shoot it; occasionally jumping up and getting into the corner, in order, he says, to escape the shot which are fired at the snake. Head feels heavy; skin rather dry, pupils contracted, complains of pain about the umbilicus, pulse is full, with some force, 80 per minute. Ordered cups to seat of pain, and to the temples; four grains of opium every two hours. Afternoon. Is still very wild, face greatly flushed, covered with profuse perspiration; has only taken four grains of opium. Ordered cups to head to be repeated, and opium continued.

10th. Took only four grains; went to sleep very shortly after the cups were applied, and slept nearly all night, and on waking was more quiet and rational; bowels not open for two days past. Ordered ℞. Calomel, grs. x.; opium, gr. j.; and large bottle of porter—10 gtts. of acet. opii in each glass. Evening. Bowels not open, complains of slight pain in the head, other symptoms the same. Ordered cups again to head; injection of senna and salts; and xx. gtts. acet. opii every hour.

11th. Took one hundred gtts. of acet. opii, slept about four hours, bowels opened three times. Complains of nausea, and pain on pressure in the epigastric region. Ordered cups to it, and the following:—Calomel, grs. iv.; opium, grs. ij.; q. b. h. Evening. Has taken twelve grains of calomel, bowels once opened, head is excited, pulse has rather more force. Omit powders, and apply cups to head.

12th. Slept some last night, head is still a little flighty; says he saw twenty persons last night, and is now occasionally talking to persons whom he imagines are present, though when spoken to, he answers very correctly; other symptoms are diminished. Ordered cups to head.

13th. Slept some towards morning, still flighty, head hot, with some uneasiness. Ordered cups to be repeated to head.

14th. Is now asleep, and slept nearly all last night.

15th. Slept to-day and yesterday, says that he never felt better. Was soon afterwards discharged cured.

Case II.—Margaret Robards, æt. 40, has been long exposed to bodily and mental suffering. In order to drown them, she has been accustomed to drink excessively. For several weeks past she has been travelling, and is now very much exhausted. Has not slept any for several nights. Was admitted May 26th. She is now quite wild, but appears disposed to sleep. Ordered xl. gtts. acet. opii.

27th. Has slept none, was very wild all night, pulse is small, and rather feeble, 96 per minute, pupils contracted, skin moist, bowels open. Ordered cold to head; assafœtida mixt. q. b. h.; and blisters to the arms. Evening. Is very restless, afraid that we are going to injure her; epigastrium very tender upon pressure; tongue inclined to dryness; other symptoms the same. Ordered mustard plaster to stomach, and xxx. gtts. acet. opii, q. b. h.

28th. Was soon relieved by the plaster, and after taking 60 gtts. of acet. opii, went to sleep, and continues so now. Afternoon. Slept about eight hours, is still wild and restless, pulse small and weak.

Ordered acet. opii, 30 gtts. q. b. h., to be alternated with the ammoniated julep, and with the free use of whiskey. Evening. No alteration; has taken 60 gtts. acet. opii. Ordered black drop to be omitted, and to take pulv. opii, q. b. h., with continuance of treatment. 10 P. M. Head considerably excited by the opium and stimuli, face flushed, scalp hot, skin cold and dry. Omit opium; rub the skin with decoct. cantharides and turpentine; apply cold to head, and blisters to ankles.

29*th.* Slept very little last night, but is now asleep.

30*th.* Slept very well last night, is now composed and rational. Is directed, in addition, some pepperpot.

From this time she gradually recovered her strength by the continuance of the generous diet, and occasional use of the diffusible stimulants, and was discharged cured in the course of a fortnight.

Case III.—George Dormont, æt. 35, admitted May 16th, 1829. Very intemperate, has been drinking very hard for two weeks, and has not slept any for the last three nights. Is now quite wild, imagines there are persons in the room who wished to shoot him; skin warm and rather dry; pulse full and soft, 80 per minute; head hot; tongue moist and clean; pupils slightly dilated; bowels not open; considerable tenderness in the epigastrium. Ordered four cups to head, and four to epigastrium, with cold applications to head, injection of senna and salts, immediately after four grains of opium and continue three every two hours.

16*th.* Has taken sixteen grains of opium; cups bled very freely; slept about two hours this morning; is still extremely wild; pupils contracted; bowels not open. Ordered, repeat cups to head, and senna injection. Afternoon. Resume opium, four grains every two hours. Evening. Having considerable cerebral tendency, six cups were repeated to head, and opium continued.

17*th.* Took yesterday twenty-eight grains of opium; is more quiet; bowels only scantily opened. Ordered senna tea. Evening. Pulse soft and frequent; head free from cerebral excitement; skin moist and warm. The opium was resumed.

18*th.* Took eighteen grains of opium; slept very little; is very wild; says his head feels very well; pulse full, and of considerable force. Ordered, venesection ℥x. and continue opium. Afternoon. The blood drawn is cupped and buffed, with very little serum; pulse has risen in force. The orifice was again opened, and blood permitted to run until its tension was reduced, which required about ℥viij.; continue opium.

19th. Slept at intervals three hours last night; took yesterday thirty-two grains of opium; pulse is frequent and soft, 108 per minute; is much calmer. Ordered a little porter. Evening. Has slept six hours during the day; is very restless; pulse has become rather tense. Ordered venesection ℥viij. and resume opium.

20th. Took yesterday sixteen grains of opium; more quiet, and slept about four hours during the night; some excitement still remaining. Ordered senna tea.

24th. For several days he has been purged, and taken from forty to sixty drops of acet. opii at bed time; has slept generally very well; still some cerebral irritation; pulse full with considerable tension, 72 per minute; mind yet wandering; is very fearful of dying. Ordered cups freely to head, which not relieving the excitement, he was in the evening bled ℥xij. which reduced the volume, and increased its frequency to 90.

25th. Mania still perceptible; head feels heavy and dull; tongue is slightly furred and red at the edges. Ordered, ℞. Blue mass, grs. v. at night.

27th. Became quite wild. Is directed a shower bath, which though repeated, was only of temporary benefit, and as the pulse still possessed some force and tension, he was bled ℥xiv.; omit the opiate, and continue blue mass.

From this time, by the occasional use of cups, cathartics, and perpetual blisters to the back of the neck, and the steady continuance of the blue mass, his symptoms became gradually alleviated, when in about ten days, gentle ptyalism supervened, which entirely dissipated his mania, and he was in a very short time restored to his usual health.

For the following case I am indebted to my friend Dr. Gerhard. James Love, æt. 35, very muscular, not much exhausted by his habits. Admitted September 1st. Pulse tense, frequent, and rather full; tongue moist, little furred; much head-ache; great nervous excitement; constantly making efforts to leave his bed; perception much less quick than usual; head hot. Cups were ordered freely to temples and back of neck, cold applications to the head, and the following; ℞. Calomel, grs. xij.; pulv. rhei, ℈j.; pulv. opii, gr. ij. The opium was used in small doses to prevent interfering with the purge. Evening. Medicine has operated, but the patient more excited; pulse as before. Ordered venesection, ℥xij.; during the bleeding the pulse fell, the pain in the head diminished. The black drop was given, as no other complication existed.

2*d.* Improving; still some excitement in the head. Ordered assafœtida mixture; cups to head—porter allowed.

3*d.* Patient delirious, but apparently with the usual form of mania a potu. Ordered opium, gr. iv. to be succeeded by gr. ij. every two hours.

4*th.* Determination to head, although he had enjoyed a short sleep. Ordered cups to back of the neck and head; calomel, grs. x. to be followed by senna tea. Evening. Medicine operated; less head-ache. ℞. Opium, grs. v. followed by grs. iv. every two hours.

5*th.* Took last night twenty grains of opium; no sleep; pulse feeble. Ordered blisters to back of neck; porter and tinct. of hops allowed. Evening. Resume opium, when sleep followed, and recovery took place.

Art. VI. *Account of a Case of Trismatic Tetanus, produced by the Passage of large, rough, and angular pieces of Clay from the Intestinal Canal into the Vagina, and Cured by Tobacco Injections.* By Burleigh Smart, M. D. of Kennebunk, Maine. Read before the Medical Society of Maine, at its Semi-annual Meeting at Portland, in January, 1825.

In March, 1824, I was requested to visit R. S. an unmarried female, aged twenty-two years. On my entrance into her room, I was struck with the view of a pale, ghastly visage—the eyes rolled up, angles of the mouth retracted, nostrils drawn upward, and the cheeks backward, mouth closed—exhibiting altogether an expression of indescribable suffering. She was lying extended on her back, her head and heels only touching the bed, the spine recurvated into an arch of almost a semicircle—her jaws were locked. In about a minute the spasm subsided, and she swallowed with some difficulty, a teaspoonful of oleum terebinthinæ, from which she experienced immediate relief. The dose of oil was repeated in about five minutes, in consequence of a partial return of the *cramp*, as the attendants termed it; which was that violent constriction and pain, darting from the ensiform cartilage to the spine and extensor muscles of the neck.

During the intervals of the cramp, as she had but a few slight returns of the trismatic and tetanic spasms, she gave me the following history of her case:—she had been of a feeble constitution from infancy; three years ago her health became impaired, and she was affected with that erratic appetite, called by Good, limosis pica; to gratify which, she had eaten for a *long time*, and in *large quantities*, magnesia, chalk, and clay; this complaint was attended with a troublesome head-ache, and other marks of derangement of the functions of the digestive organs.

She had menstruated irregularly, and the discharge was deficient in quantity and abnormal in quality. About a year ago, she became affected with sharp pains through the abdominal and uterine regions, accompanied with heavy bearing-down sensations, like parturient contractions of the uterus—swelling and exquisite tenderness of the abdomen—and retention of urine, requiring the repeated use of the catheter. After some weeks' suffering, she was attacked with trismatic tetanus; the trismus continued forty-eight hours, during which time the disease came on in paroxysms; a trait that it has constantly exhibited in every attack.

The resolution of the first trismatic spasm was attributed to the use of prussic acid.

About this time there was a *discharge* of a considerable quantity of *fœtid, purulent looking matter, per anum et vaginam;* and after much suffering from this bearing-down sensation, conjoined with a pricking, tearing, or lacerating feeling, an angulated piece of earthy matter, of a light colour, interspersed with white spots, and of a hard and compact texture, was discovered in the vagina and removed.

The second attack of trismus was about a month subsequent to the first, and continued between three and four days, and left her spontaneously. This was also succeeded by a dejection of this earthy matter, which the attending physician had already pronounced to be the product of "gravel of the womb."

The third attack was in September, seven or eight months subsequent to the second. It continued, with intervals of relief from the spasms, about a month.

In the intervals of the attacks of trismatic tetanus, she was not free from any of the concomitant affections, only suffering them in a less degree than seemed necessary to induce the tetanic spasms.

When she came under my care, she had been labouring under alternations of the spasms, and intervals of comparative ease, for about a week, during which time the violence of the spasms had been moderated by the use of laudanum and bleeding, the latter always producing a resolution of the trismatic spasm when carried to the production of incipient deliquium—but the relief was very transitory. I directed her to take a tea-spoonful of the oleum terebinthinæ—ext. cicuta, five grains, and calomel, five grains, alternately, every hour.

Next day no return of the tetanus; freedom from the cramp and pains in the uterine region; a number of copious dejections from the bowels. Used the catheter, and removed some of the earthy matter from the vagina. Intervals of the medicine lengthened.

Two days afterwards I saw the patient; no return of tetanus; ptyalism; catheter used, and more earthy matter extracted from the posterior and superior part of the vagina; the matter was always found occupying the space between the cervix uteri, and the recto-vaginal septum; the projecting part of the cervix uteri being carried forward toward the symphysis pubis, the os uteri was always impervious to the finger, nor could any fissure or opening be detected by the most careful manual examination, though the relative situation and extreme tenderness of the parts were unfavourable to a satisfactory investigation.

The patient continued exempt from any tetanic affection about ten days, the gastric and abdominal pains being rendered tolerable by the free use of ext. cicuta, which, when used in sufficient quantities to relieve the pain, was productive of derangement of the cerebral functions.

During this period, a hard circumscribed tumour in the right hypogastric region, was discovered, occupying a line drawn from the umbilicus to the superior anterior spinous process of the ilium of the corresponding side, exquisitely tender, hard, and inelastic, which was asserted to have been noticed for a long period. She was now directed to keep the bowels open, and to use the turpentine and cicuta pro re nata.

It should be remarked, that every attack of tetanus, succeeded by a dejection of earthy matter, was followed by a copious secretion of milk, and a number of times by the formation of an abscess in the breast.

In a few weeks the patient was able to visit me, a distance of eight miles; but she suffered much abdominal pain, produced by the motion of the carriage.

The second day subsequent to her visit, I was desired to see her; when she informed me by writing, her jaws being locked, that her suffering from excruciating pain had been inexpressibly severe ever since her ride; that she felt a consciousness that her situation was more perilous, and the event more precarious than it had ever yet been; and that this opinion arose from her feelings being so different from any she had ever before experienced; that the abdominal tumour had descended; that she suffered powerful but ineffectual expulsive pains, and a sensation as if a large body was tearing and forcing its way through a narrow aperture.

The spasm of the jaws was relieved by bleeding, and the same prophylactics used as before. But the latter were unavailing, notwithstanding sufficient quantities of calomel were introduced to excite a smart degree of ptyalism.

After bleeding was deemed improper, suppositories containing about twenty grains of pulverized tobacco, with five grains of opium, were directed to be used per anum. The use of the first, in about two hours, was followed by nausea, vomiting, and a solution of the trismatic spasm of forty-eight hours standing. She had before objected to the exhibition of enemata, and she was now averse to the use of suppositories, from the local distress they occasioned; she was therefore desired to use the same remedies, *per vaginam*, which she did a few times with success; but this form soon became ineffectual, but not till she had repeatedly been annoyed by the taste of tobacco in the mouth at every supervention of vomiting subsequent to the introduction of the remedy. A piece of tobacco was afterwards employed in the same way, with a ligature around it, by which it could be easily withdrawn on the accession of the vomiting, and with the same success as the preceding.

The last form also soon proved ineffective. It was now found that the remedies used for the tetanic affection, paralyzed those expulsive efforts by which the dejection of the earthy matter was effected; it was therefore deemed adviseable to suffer the disease, as far as was compatible with safety, to take its own course, with the hope that the expulsive efforts would prove adequate to the dejection of the earthy matter, and thereby put a period to the paroxysms, as the descent of that substance was always the exciting cause of the tetanus.

By the use of the forementioned means, the pains and spasms were a little mitigated for a few days, and twice the jaws were opened by the tobacco; once for about twenty minutes, in which time she drank a tumbler of water, another time for about fifteen minutes, during which she was unable to take any thing, by reason of the distressing nausea at the stomach, occasioned by the tobacco.

With the exception of these intervals, the jaws were *uninterruptedly closed eight days and eight nights*, the tetanic spasms harassing her at more or less distant intervals, and the abdominal pains continuing excruciating.

During the first few days, the severity of suffering seemed slightly mitigated by the remedies used, but they all soon lost their effect.

She had now lain eight days without food or drink, save one draught of water, and suffering the most exquisite torture, and the vital powers now appeared rapidly sinking. In this situation it was determined to make one desperate effort to rescue the patient from this terrible disease, thinking with CELSUS, that "satius est enim anceps auxilium experiri quam nullam;" and knowing the powers of tobacco in prostrating the powers of animal life, the conviction forced itself upon my mind, that if I could subdue these powers, it would then be practicable to subdue the disease. It was therefore determined to make a cautious repetition of the exhibition of the tobacco, in small quantities, until some powerful effect was wrought either on the subject or the disease. An infusion of the article was prepared, and a part injected *per anum*, and a part *per vaginam*, and the latter retained by closing the orifice with a cloth.

This double application was repeated once an hour to the third time, when unequivocal evidence of its effects showed itself; the patient became pale and cold; tremor of the extremities; a small feeble pulse; anxiety and oppression at the præcordia, with efforts to vomit, soon followed by powerful vomiting, and a gradual opening of the jaws.

This seemed to break the charm, for although she had many slight returns of the trismus, yet not one exceeding a few hours in duration, and this without any tetanus.

Large and repeated dejections of the earthy matter,* now took place in rapid succession, and she gradually recovered from every symptom of tetanus, and has continued exempt to the present time, a period of about five years. She has had no dejections of the earthy material since convalescence from that attack. The tumour in the hypogastric region has also disappeared, with all those distressing pains in that region and in the uterus. Menstruation is more regular and better in quality, but still she is somewhat affected with the limosis pica, but she abstains from gratifying this appetite. Her general health is feeble, but she is free from the burden which so long incommoded her by its weight and size.

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* A specimen of this matter accompanies this communication. It bears a perfect resemblance in all its external and sensible characters to the clay found between the backs of old chimnies, even in the empyreumatic smell that the clay in such situations imparts, from its impregnation with smoke. This peculiar smell of the clay was very perceptible soon after it became dry. Some of the pieces of clay contained minute splinters of wood and straw intermixed. The patient asserted that she had been in the habit of often picking pieces of dried clay out from between the bricks of the chimney, and eating it. The aggregate quantity of this earth, which was evacuated per vaginam, is estimated to have measured about two quarts.

In this case, the purulent discharge per anum et vaginam, preceding the dejection of the earthy matter into the vagina, furnishes a clue to the manner in which this matter arrived there; and the previous habit of the patient in eating earths, and the abdominal tumour, render it probable that an accumulation of these earthy substances took place in some portion of the intestinal canal, forming a sac which eventually became so occluded from the intestinal canal, as to prevent the fæces passing this way, and its weight causing it to descend into the pelvis, where adhesion to the surrounding parts took place, and finally ulceration, by which a passage was formed, through which the earthy matter made its exit into the vagina.

A case of the formation of a sac by the coats of the intestines, and occlusion from the common canal, by taking a large quantity of an amalgam of quicksilver, is reported in some of the early numbers of the Philadelphia Journal of the Medical and Physical Sciences, which bears some resemblance to the manner in which I have supposed the earthy matter to have become occluded from the alimentary canal.

Kennebunk, Maine. March, 1830.

Art. VII. *Observations on the Medical Topography of Callao, with an Account of Disease of the Liver, as it appeared on board of the United States' Frigate Brandywine, during a Cruise in the Pacific Ocean, in the years* 1826-7-8-9. By W. S. W. Ruschenberger, M. D. of Philadelphia, Assistant Surgeon U. S. N.

I SHALL premise the few remarks I have to make on derangement of the hepatic system, with a short account of the climate of the coast of Peru, or rather of that part of it near the capital, where we spent a large portion of our time, and which appeared to be a very active agent in the production of disease.

The harbour of Callao, situated in 12° 2′ south latitude, and 7′ west longitude from Washington, is a mere open road-stead, defended from the prevailing southerly breezes, that veer from south-east to south-west, by the island of San Lorenzo; it has a south-east and north-west direction, and its highest point is elevated more than five hundred feet above the sea. It is made up of dark reddish coloured rocks in a decomposing state, and sand. It is almost always shrouded in vapour, and is entirely barren. This island is resorted to by foreign ships of war for the purpose of refitting, and is the burying place allotted by the Peruvian government to those not of the Catholic faith.

Callao consists of several dirty, unpaved streets, flanked on either side by little huts made of mud and reeds, or "adobes," (sun dried bricks,) and the inmates are not less wretched in appearance than their dwellings. It is defended by three castles. A little to the southward is "Old Callao," which was sunk by an earthquake in 1746, which at the same time severed in two parts the island of San Lorenzo. On a level with the surface are several arches that formed the ceilings or roofs of the churches of the ancient town, and now serve as receptacles for the dead—or rather did so until being filled up,[*] they could contain no more. Bodies were thrown promiscuously into these pits in the same state in which they may have died, without even stripping off their clothes, and are found here entire in a state of dry preparation. During the siege of the castles in 1825, the bodies of the slain accumulated to such an extent, that vessels in the harbour were compelled to remove to the island, to avoid the effluvia that was wafted to them by these putrefying, or rather drying heaps. For several miles to the northward and southward, the country is low and marshy, but gently rises on the eastern side into the stupendous mountains of the Andes, whose summits are ever hidden in snow. The soil is rich and vegetation luxuriant. The Rimac, a small rivulet, empties into the bay a little to the north of the town. It is not navigable.

The atmosphere of Callao is hazy and damp during a greater part of the year. In mid-summer[†] the sun shines out in the middle of the day, and the mornings and evenings are cloudy, and sometimes a heavy mist falls. In the winter season these mists prevail, and the air becomes so cool that a fire is comfortable in the extreme parts of the day. The mean temperature of the year may be stated at 67° F. the temperature seldom rising above 83° F. or sinking below 55. The barometer is subject to but slight changes, and is generally stationary on board at about thirty inches. In Lima, distant from Callao about seven miles in a north-east direction, the barometer stands generally at twenty-seven inches and four lines, varying only from two to four lines and without any established order. Baron de Humboldt remarked in 1802, that the barometer was subject to a constant flux and reflux in the twenty-four hours.* Similar observations have been subsequently made.

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[*] In 1825.

[†] January and February.

Rain in distinct drops is rare, and it may be said with propriety that it never rains in the valley of Rimac. The dates of thunder-storms are accurately preserved, and it is said that since 1582, only four have occurred. This is one of the most singular phenomena of nature, and I believe the climate of Peru is, in this particular, unique. Various explanations of this fact have been offered, among the best of which is that of Mr. J. F. DANIEL. He very ingeniously supposes that as atmospheric evaporation and precipitation may be regarded as a constant distillation, it might be possible that a condenser existed in the neighbourhood of a place in the form of a mountain, which might determine the stream of vapour to set constantly upon itself, and convert it into rain to the exclusion of the valley over which it might pass.† This seems plausible, for it is a maxim in Peru, "En el estiò cuanto mayor el calor en la costa, tanto mas abundante la lluvia en la sierra"—in the spring, the greater the heat on the coast, the more abundant the rain in the mountains. So it would appear that the rain in the mountains is in a ratio to the evaporation from the Pacific. Dr. UNANUE attributes it to the electrical state of the air, which he supposes to be constantly surcharged with that fluid, and hence there is a strong current towards the mountains which are electrified negatively, and for the same reason thunder and lightning are hardly known in the vallies near the sea, although it is not uncommon to see the electric fluid playing among the peaks of the Cordilleras. May I be permitted to inquire where is the electric generator that is to keep the air in a positive state, while it is constantly attempting to restore the equilibrium, by discharging the superabundant fluid in the Andes, and how is it that the latter keep in a constant negative state, notwithstanding the supply from the atmosphere?

There is a phenomenon observed in this climate which is not satisfactorily accounted for, viz.: that putrefaction does not readily take place in animal substances exposed to the influence of moisture at night, succeeded by heat in the day time, but as I have stated, whole bodies dry into mummies. Is this owing to the rapid evaporization that takes place from the Pacific—thus counterbalancing the effects of heat and moisture—or has the electrical state of the atmosphere any influence over the putrefactive process? I was disposed to think that the salt deposited at night by the heavy dews might be a sufficient antiseptic, for not unfrequently the soil is covered in the morning with a thin scale, which crackles much like thin ice when trodden on, and possesses a salt taste—and this is particularly the case after the heaviest dews—but as the same phenomenon is observable several miles from the coast, where we would suppose the saline deposition did not reach, though I was unable to ascertain the fact, leads me to wait for a more satisfactory explanation.

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* See Observaciones sobre el Clima de Lima, por Doctor Unánùe. Madrid. Segunda edicion, 1815.

† See Caldcleugh's Travels in South America.

The most prevalent diseases are dysenteries, diarrhœas, hepatic affections at different seasons, and intermittents of the tertian form throughout the year. Nor are they exempt from inflammatory and typhoid fevers, and epidemics cannot be considered as rare, though more common since the revolution commenced than under the Spanish dynasty.

Disease of the liver appeared with us in various forms, making its attack sometimes slowly, sometimes suddenly, and at others the organ was seriously affected, before a symptom manifested the existence of morbid action. When it came on slowly, the patient first complained of a severe pain in the right shoulder above the clavicle, describing it sometimes as a heavy weight, and sometimes as of an aching or shooting kind. The tongue was sometimes clean, but usually furred at the root. The skin was generally in a normal state. The pulse was usually small without either much frequency or tension, though it was occasionally hard and somewhat quick. The bowels were generally costive, though the contrary sometimes obtained. The pain in the shoulder seldom lasted twenty-four hours, before there was a sensation of soreness in the right hypochondrium, manifested on pressure or by a deep inspiration. The pulse became fuller, and occasionally the stomach irritable. An aching pain in the side soon followed, accompanied by a sense of weight and fullness. Besides these, there were several other symptoms that did not always attend, viz.: itching and tickling of the glans penis, scalding of the urethra, high-coloured urine, sharp pain under the scapula, sallowness of the skin. Sometimes the pain was in the left shoulder. Sometimes the disease commenced with nausea and vomitings, with chills and flushes, attended by fever, before there was any indication of hepatic disease, and such cases proved most difficult of management.

Not unfrequently it came on suddenly, while the patient was engaged at his ordinary duties, with a lancinating pain under the edges of the ribs of the right side, sometimes so severe as to render respiration extremely painful. The skin being frequently cool and moist, tongue furred, bowels costive, with a small pulse, which at times was almost imperceptible, and an anxious expression of countenance.

Sometimes suppuration was established in the liver, without any premonitory signs that would lead us to suppose, à priori, that such was the fact. A slight cough, with languor and a disposition to sleep, were the only morbid symptoms complained of by the patient, till rigors, with a throbbing pain in the side, declared but too clearly the nature of the case. Three cases of this kind occurred on board of the Brandywine. In the first, there was no pain complained of at any period of the patient's indisposition, and it was not till after he suffered from rigors, that he manifested any uneasiness in the right hypochondrium, from pressure, or on a deep inspiration. The abscess discharged itself into the intestinal canal. The second case commenced with pain, and a sensation of weight in the stomach, furred tongue, full hard pulse, and occasional chills and flushes. After being twice bled, and having his bowels opened with calomel, he complained of pain in the right shoulder, and the succeeding day of pain in the right side and epigastrium. With intervals of several days of entire relief, from the use of cups, blisters, slight mercurial courses, &c. affording at times every prospect of a happy termination, he was under treatment during three months, when suppuration took place. He lived several days after the abscess burst, having severe chills every night. The matter, which was of a leaden colour and very fœtid, was discharged by the mouth and per anum. The liver was very much enlarged. In the third case the matter was discharged through the lungs. Some time previous to his death he complained of catarrh, of which he was relieved, and went to his duty. In two days he returned, complaining of pain in the side and shoulder. He was bled, cupped, and blistered. The abscess burst suddenly at night, and he threw up nearly a quart of very fœtid, leaden-coloured pus. He said at the time he felt something give way just under the right nipple, where for three weeks previous he had a "tickling pain," which ceased after the evacuation of the matter; also that he had, during the same period a dry cough, but so trifling in his opinion, as not to require attention. He lived for ten days, discharging pus through the lungs, and on the last two days by stool mixed with a bloody serum. Besides these cases, I saw several similar ones on shore, in none of which was there any effort made on the part of nature, towards discharging the matter externally, and if we are to believe Mr. Clark, cases of this kind rarely occur. "Although," says he, "tumours are often to be seen externally of considerable dimensions, I never knew an instance of their bursting outwardly; and from what

I could learn, I believe an instance of the kind was never known in India."*

In all these forms, the mind seemed equally to participate. The patient was always despondent, as to the result of his case—gloomy, irritable, and suspicious; in fact, no man is amiable when the function of his liver is deranged in the slightest degree. Nor can we be surprised at this, when we take into consideration the strong sympathies existing between the stomach, the brain, and that organ. The fact of suppuration of the liver following injuries of the brain, can only be explained on this ground, and it has been said that the affection of the mind is the primary disease. There can be no doubt but particular mental affections do produce disorder of many visceral functions, and perhaps the liver suffers from this cause as often as any other organ. Nostalgia may not be an unfrequent cause of deranged hepatic function. In short, these two very important viscera are to each other as two opposed mirrors, the images of one being reflected to the other, it not being material on which the light first impinges to produce the effect.

The first indication in the treatment was to relieve irritation, and to obviate or subdue inflammation. The means employed for this purpose were bleeding, both general and local, blisters, and purging with the mercurial preparations; and where there was congestion, I think I have seen benefit derived from the use of emetics, which equallize the circulation, and determine to the surface. The second was to restore the liver to the exercise of its healthy functions, for which purpose an alterative course of mercury, in the form of blue pill, was resorted to. Where suppuration had taken place, treatment of whatever kind afforded us but slender hopes of a favourable result. Mr. Clark says that recoveries do sometimes take place when the matter is discharged through the lungs. We are directed to open the abscess so soon as fluctuation is perceptible, as affording the best prospect to the patient. This should be done not by plunging an instrument at once into the abscess, but first cutting down upon the tumour, to ascertain whether adhesions have formed between the peritoneum of the abdominal parietes and that of the liver, which is very frequently not the case, and should it not be found adhering, the case ought to be left to the resources of nature; for should an opening be made, the cavity of the peritoneum would probably receive the pus, and the patient, in consequence, most certainly perish. In the second case alluded to, an incision was made over the liver after pus had been discharged, with a view to open it, but the peritoneum was not adhering; the wound was converted into an issue, in hopes that adhesions might form from the irritation it created.

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* Observations on the Nature and Cure of Fevers, &c. by Thomas Clark, Surgeon. Edinburgh, 1801, p. 69.

With regard to bleeding, I think that patients do not bear the use of the lancet so well in hot as in cold or temperate climates, and Baron Larrey expresses a similar opinion.* The same may perhaps be said as respects purging with active articles—at least the observation will hold good with soldiers and sailors. These latter differ from every other class of society in their manners, their customs, their diet, and even in their exposure to the causes of disease. Intemperance is looked on by them rather as a virtue than a vice, consequently nine-tenths of them are habitual drunkards, and it is well known that such persons will not bear heroic remedies. The quantity of whiskey allowed daily by government is in my opinion, sufficient to destroy the best constitution in a very short period. Whether idle or employed, each man drinks a half pint of this miserable liquor in the twenty-four hours. A gill is taken at meridian, and another at four o'clock, P. M. scarcely allowing the effects of the first draught to subside. Besides this, it is common to give an extra "tot," as they technically call it, when they have been more than usually exposed. If they must have the half pint, would it not be better to divide it into three or more parts, or make the interval longer, instead of keeping them part of the day in a constant state of excitement, and at night, when exposed to the more probable cause of disease, left without any stimulus; nay, in a state of depression, consequent upon the excitement of the day?

I may here remark, that change of climate affords the only prospect of a radical cure, for so long as the patient is exposed to its effects, so long is he liable to returns of the disease, which eventually terminates in chronic enlargement. Even after this has taken place, a change of climate, with a well-regulated prophylactic plan, very frequently succeeds in restoring the patient to health, though many are doomed, after a residence in hot climates, and particularly in the West and East Indies, to drag out a miserable existence, in spite of all our art has suggested.

The skin is the organ that probably feels the first and immediate influence of hot climates. It soon loses here, in a great degree, its perspiratory function, from constant excitation, and foreigners, in a very short time, observe the difficulty they have in inducing diaphorosis by the usual means, viz. exercise. The skin becomes husky, and loses that soft elastic feel which it commonly possesses. With it, the pilous tissue suffers, and the hair falls out without any evident cause. Next perhaps in order, is the mucous lining of the primæ viæ. Its secretions are altered, and sometimes increased. The mucus of the intestines becomes more attenuated, more of a serous character, and seems incapable of defending the delicate lining membrane of the stomach and bowels from the action of ingesta, which at other times would be innoxious, and hence the prevalence of dysenteries and diarrhœas.

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* See his Memoirs and Surgery.

It is not difficult to trace liver disease to the effects of climate through the medium of the skin, if we acknowledge the cutaneo-hepatic sympathy, as pointed out by Dr. Johnson, in his work on hot climates, and which is there made so plain, that it is unnecessary for me to say any thing on the subject. Yet there is another medium by which the liver may take on diseased action. I believe that it appears often as the sequela of dysenteric complaints. I can conceive that inflammation of the mucous membrane of the duodenum may travel along the ductus communis, and so implicate the liver; and I am disposed to account for the increased prevalence of hepatic affections among our crew, after suffering from epidemic dysentery, by referring to this cause. The cases I have alluded to had suffered severely from that disease.

The regulations of the ship prevented post mortem examinations, so that I can say nothing of autopsical appearances.

Art. VIII. *Extirpation of a Cancerous Eye.* By Harvey Lindsly, M. D. of Washington, D. C.

About the 1st of March, 1829, I was consulted by Michael Furman, respecting a disease of his right eye. He informed me that the complaint commenced about three years previously, in the form of a small white speck on the anterior surface of the eye; which, however, did not prevent his attention to his daily occupations, until some time in November, 1828, when it became painful, and began to enlarge with considerable rapidity.

He had consulted several physicians, and by their direction had employed various remedies without any beneficial effect, and in some instances with decided injury. Lunar caustic and astringent lotions were the principal articles made use of.

It should be mentioned that the patient was about fifty years of age, a carpenter by trade, and of intemperate habits.

As other remedial agents had failed, and as he was evidently getting worse, I deemed it my duty to extirpate the diseased mass, as affording the only chance of preserving the patient's life—although owing to the length of time the disease had existed, and the irritable and debilitated state of his system, I placed but little dependance even on this last resort.

The disease consisted of two distinct masses—the one nearest the nose of a dark red colour, and a soft and gelatinous consistence—the other of a dark purple, and cartilaginous hardness. Both together filled up entirely the cavity between the nose and eyebrows, so that in a front view the eyelids could not be seen.

On the 24th of March I proceeded to extirpate the eye, in the presence of Drs. Sewall, Bulfinch, and Dunn, and several medical students. The mass was so large as to render it necessary to make an incision through the integuments at each angle, in order that the eyelids might be sufficiently retracted to proceed with the operation. After completing the extraction in the usual manner, I filled up the cavity with lint, applying compresses, &c. The hæmorrhage was considerable—℥xiv. to ℥xx. were probably lost, during, and immediately after the operation, from the branches of the ophthalmic artery, though I did not find it necessary to apply any ligatures. A slight oozing followed, but ceased entirely in about twelve hours after the dressings were applied. Ordered two grains and a half of opium before leaving the patient.

25th. Has had a comfortable night, and slept soundly; pain very slight. Prescribed an aperient and light diet.

26th. Still doing well. I now placed the patient under the care of two intelligent students, with directions to change the dressings every morning, and keep the bowels open. Healthy granulations soon made their appearance, and in a month the cavity was entirely filled up, with little or no deformity. But notwithstanding the apparent success of the operation, I felt an anxious solicitude about the ultimate fate of my patient—fearing that the disease might return and still prove fatal. My apprehensions were not without foundation, as in about five months, from the period of the operation, the disease returned. As he had removed from his former residence, I saw him but once during this time, but was informed that he died eight months afterwards.

Upon dissection of the extirpated mass, I found the humours wholly absorbed, and their situations occupied with a hard substance, of nearly the same colour as the external portion. Cysts, also, were interspersed, containing a substance equally hard, and of different colours, from a light ash to a dark purple or black. The sclerotic coat was a little thickened, but the optic nerve was of its natural size and colour.

This case is interesting, as it adds one more to the many proofs we already possess, of the importance of early extirpation in this formidable disease.

It is a fortunate circumstance that the distinction between cancer and fungous hæmatodes has been so clearly drawn, that no apology now exists for confounding them—this, at least, is the case, if the description of the disease in our systematic writers can be depended on. The diagnosis is important, inasmuch as it seems now generally conceded, that extirpation of fungous hæmatodes, unless most cautiously performed, and in the very beginning of the complaint, is not only useless, but decidedly injurious—rendering the disease more rapid in its progress, and more inveterate in its character—whereas the removal of cancer has often been successful, even in a stage considerably advanced.

Washington, D. C. May, 1830.

ART. IX. *Case of Rupture of the Uterus, successfully treated.* By WILLIAM S. HENDRIE, M. D. of Hilltown, Penn.

MRS. —— a small woman of healthy constitution, thirty-three years of age, pregnant with her eleventh child, was on the 17th of May, 1829, at about 12 o'clock in the morning, taken with labour pains, and sent for her physician, Dr. SAMUEL CAREY. Her labours had been uniformly tedious and painful, rendered so in a great measure by a small bony tumour, situated on the projection of the sacrum, lessening the antero-posterior diameter of the pelvis, at least one inch, or one inch and a half.* At 10 o'clock the os uteri was so high as to be reached with difficulty, by a common examination; it was however considerably dilated, and the presentation natural. She was bled to the amount of ℥xx. and an enema administered, by which the rectum was freely evacuated. As had been the practice with most of her preceding labours, the secale cornutum was given; this soon produced its usual effect, and continued for some time; during a violent expulsive effort, the pains suddenly ceased, the abdominal tumour changed its regular appearance, she declared something unusual had occurred, and supposed she was about to be delivered of twins—the head immediately receded, and considerable hæmorrhage took place.

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* Of the ten preceding labours the forceps had been used twice; she has however given birth to five living children.

This is the history I received of the case from Dr. Carey. I saw her at 9 o'clock in the evening, about eight hours after the accident had occurred. At this time she was labouring under great anxiety; considerable prostration; pulse frequent and feeble; extremities cold; abdomen very much distended, and in some parts extremely tender; hæmorrhage very much diminished; the child could be distinctly traced through the abdominal parietes. No doubt existed with regard to the nature of the accident that had occurred. After a careful examination, we ascertained that the rupture was on the anterior part of the uterus; that the child, together with the placenta, had entirely escaped into the cavity of the abdomen—the rent commenced in the cervix on the right side; extended obliquely toward the left about three inches; the remainder of the laceration was at the junction of the uterus with the vagina. The fundus of the uterus was pretty firmly contracted, but the body and cervix flaccid and yielding. The child lay obliquely across the abdomen, the head towards the right iliac region.

Notwithstanding the length of time that had elapsed since the occurrence of the accident, as the parts concerned in the injury did not oppose any obstacle to delivery, *per vias naturales*, we felt justified in making that attempt, especially as the history of all preceding cases, left us nothing to hope from the conservative powers of nature; having made a candid statement of the probable result to our patient and her friends, they promptly acquiesced, and even expressed a willingness to submit to any operation we should think necessary, to relieve her present anxiety and distress.

Having placed her in a favourable position, the hand was introduced, (the bladder being previously evacuated,) the feet were readily obtained, and the body of the child delivered with the utmost facility; some difficulty was experienced in getting the head through the superior strait of the pelvis, owing to the exostosis already mentioned; this was finally accomplished with the aid of the crotchet; the hand was again introduced, for the purpose of extracting the placenta, which was found in the left side of the abdomen. Some large coagula were brought away entangled with the secundines. In searching for the placenta, my hand was in contact with the naked intestines, from which circumstance, no doubt can remain of the rupture being complete. After ascertaining that none of the bowels protruded from the laceration, she was placed in bed, in a very exhausted condition—a cordial anodyne draught was given—two hours afterwards she expressed herself as feeling quite comfortable.

18*th*, 6 o'clock, A. M.—Has rested very well since 12 o'clock. System appears to be re-acting; pulse remains small and frequent; complains of some soreness but no pain; yet the abdomen is quite tender to the touch, and is somewhat distended. Directed fomentations to be applied to the abdomen, and a cathartic mixture. 6 o'clock, P. M. Abdomen greatly distended, and extremely painful, exquisitely so on pressure; pulse frequent and tense; skin dry and hot, cathartic has not operated. Ordered, v. s. ℥xviij. cathartic medicine to be repeated, and its operation solicited by an occasional enema—fomentations continued.

19*th*. Passed a very restless night, bowels freely opened this morning, since which the pain and distention of the abdomen very much diminished; pulse less frequent, yet somewhat tense. Ordered, venesection, ℥xij.—nitro-antimon. pulv. every two hours.

20*th*. Is much better—no pain, and very little tenderness on pressure; pulse soft; skin cool; countenance lively and cheerful.

21*st*, et seq. She is still improving, thinks herself able, if permitted, to sit up and have her bed adjusted. Rest, and a low diet were enjoined, and persevered in for several days; her convalescence was rapid and uninterrupted; four weeks after the accident, she was able to attend to her domestic affairs; complains of no particular uneasiness, except the inconvenience resulting from a urinary fistula.

January 20*th*, 1830. Enjoys at present, remarkably good health; has menstruated regularly since August. In July an apparatus was procured, for the purpose of obviating the inconvenience arising from the fistulous opening in the bladder: it has been worn till within the last few weeks, and has effected a radical cure.

Hilltown, Bucks County, Penn. March 1st, 1830.

Art. X. *Meteorological Observations, made in the City of Philadelphia, Latitude* 39° 57′, *and on the Island of Tinicum, eleven miles south-west from Philadelphia, Latitude* 39° 48′, *for the year* 1827. By George F. Lehman, M. D. Lazaretto Physician of the Port of Philadelphia.

(Continued from No. XI. page 138.)

THE observations were made in the city, for the months of November, December, January, February, March, April, and May, and the seventeen last days of October.

AUGUST, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	80	79	S. W. fresh.	Clear.
2	82	79	S. W. fresh.	Clear. Cloudy. Drizzle.
3	83	79	S. W., S. E.	Clear.
4	85	83	S. W.	Clear. Cloudy. Drizzle.
5	86	84	N. E., S. W.	Clear. Thermom. 92° at 3 P. M.
6	90	83	S. W.	Clear. Thermom. 94° at 12 M. in the shade; 128° exposed to the sun.
7	78	76	N. fresh, S. E.	Clear.
8	79	75	S. E., N. W.	Clear.
9	80	78	N.W.,S.W.variable	Clear.
10	82	78	S. W., S. fresh.	Clear.
11	84	75	S. W., N. W.	Clear. Cloudy. Rain. Fine shower at night, with thunder and lightning.
12	75	72	W., N. W.	Cloudy. Moderate rain. Clear.
13	73	68	N. W. fresh.	Clear.
14	70	76	N. W., S. W.	Clear. Thermom. 58° at daylight. Aurora borealis at night.
15	77	70	N. E., S. E. fresh.	Overcast. Distant thunder and lightning. Drizzle at night.
16	73	76	S. E., S. W.	Cloudy. Large rain P. M. with very vivid lightning, and tremendous peals of thunder.
17	65	68	N. E.	Cloudy. Drizzly.
18	66	68	N. E.	Cloudy.
19	70	71	N. E., N.	Overcast. Hazy.
20	74	77	N. E., S.	Overcast. Clear.
21	80	68	N. W., N.	Clear.
22	70	65	N. W.	Clear. Thermom. 59° at sunrise.
23	73	68	N. E., S. E.	Clear.
24	71	66	N. E., S. E.	Flying clouds. Clear. Thermom. 61° at sunrise.
25	68	65	N. E. fresh.	Cloudy. A gale from N. E. at night with rain. Thermom. 61° at sunrise.
26	66	70	N. E. a gale, S. E.	Cloudy. Hard rain all day and night.
27	68	64	S. W., N. E., N.	Cloudy. Rain A. M. Clear. Wind very fresh from the N.
28	70	63	N. W.	Clear.
29	67	67	N. W., S. W.	Clear. Thermom. 56° at daylight.
30	68	68	N. E., S. E.	Hazy. Clear.
31	71	72	S., S. W.	Clear. A very dense fog A. M.

Total rain during the month - - - - -	6.04 inches.
Mean temperature - - - - - - - -	73.53° Fahr.
Decrease of heat from last month - - - -	0.81°
Maximum - - - - - - - - - - -	90°
Minimum - - - - - - - - - - -	63°
Range of thermometer - - - - - - -	27°

Hottest day, 6th.—Coldest days, 17th and 28th.

Boston, Mass. August 2d.—The thermometer was at 96° in the shade.

New Orleans, Louisiana, August 4th.—The Mississippi river has risen five inches, and is two feet ten inches lower than at this time last year. The weather is warm and dry.

Newark, N. J. August 7th.—The weather has been excessively warm for the last three days; the thermometer rising part of the time as high as ninety-three to ninety-six degrees.

Norristown, Montgomery County, Penn. August 8th.—Our corn, potatoes, grass, and vegetation is completely parched up, and the cattle are suffering for want of grass and water. Many springs have dried up.

Portsmouth, N. H. August 9th.—The mercury stands at ninety-seven degrees in the shade. A slight shock of an earthquake was felt in this town about seven o'clock last evening.

New Albany, Indiana, August 11th.—Another shock of an earthquake was felt about midnight. It lasted a minute, and was so sensibly felt that the inhabitants were wakened from their slumbers.

Trenton, N. J. August 11th.—We were relieved from the drought experienced in this part of the state for three weeks past, by a fine shower of rain. The spring and mill streams had been very low.

Washington, Geo. August 16th.—A general and mortal fever prevails in this place and surrounding country. In many families there is not one left untouched by disease to administer to another.

New Orleans, Louisiana, August 18th.—The Mississippi is now six feet seven inches below high water mark; with the exception of a few showers the weather has been dry and warm.

August 25th.—An earthquake was felt at Stonington, Connecticut, and at Westerly Norwich, and New London, about half past nine o'clock, just previous to the commencement of the north-east storm.

Philadelphia, Penn. August 28th.—The aurora borealis was visible from nine to eleven o'clock, P. M.

Montreal, August 29th.—For some nights past an uncommon brightness has been visible in the heavens, extending in the form of an arch from east to west, and touching the horizon at either extremity. About ten o'clock it was most visible, and sometimes seemed to emit clear particles of light, which took a direction to the earth, and were similar to very vivid lightning.

The different papers from all parts of the country, continue to be full of descriptions of the luminous appearances lately seen in the heavens.

The malignant fever prevails in Charleston, S. C. New Orleans, Louisiana, and Savannah, Georgia.

Severe and dreadful gales of wind occurred from the middle to the latter end of this month, along the Atlantic coast, and in the West Indies. At St. Bartholomews, Gaudaloupe, Martinique, Antigua, St. Kitts, St. Croix, Porto Rico, and St. Domingo, most of the vessels in port were driven ashore, some wrecked, and great injury done to the plantations.

The storm raged along the coast of North Carolina. Washington and Newbern, N. C. were partly inundated. At Washington the tide rose fifteen feet above ordinary tides. A number of families were taken from their dwellings in boats. At Newbern the destruction of property was very great. Houses were blown down. The gale was severely felt in New York and Baltimore. The wind was mostly from north-east, with heavy rains.

SEPTEMBER, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	75	72	N. W., S. W.	Clear.
2	74	72	S. E., S. W.	Clear. Dense fogs in the morning.
3	78	72	N. E., S. E.	Clear.
4	76	68	N. E., N.	Clear.
5	70	64	N. E.	Clear.
6	69	71	N. W., N.	Clear. Hazy. Thermom. 59° at sunrise.
7	66	61	N. E. fresh.	Cloudy. Clear.
8	62	59	N. E. fresh, N.	Cloudy. Clear. Thermom. 58° at sunrise.
9	65	58	N., N. E.	Clear.
10	68	67	N. W., S. W.	Clear. Thermom. 54° at sunrise.
11	73	69	S. W., W.	Clear.
12	66	58	N. W. fresh.	Clear.
13	66	68	S. W. fresh.	Clear. Thermom. 51° at sunrise, and a dense fog.
14	74	75	S. W. fresh.	Hazy. Clear. Cloudy.
15	77	71	S. W. fresh, N. W.	Clear.
16	68	65	N. W. fresh.	Clear.
17	65	62	N., S. W.	Clear. Thermom. 54° at sunrise.
18	63	66	S. E. fresh, S.	Cloudy. Rain all day. Clear.
19	62	57	N. W. fresh.	Overcast. Flying clouds.
20	62	64	N. W.	Cloudy.
21	64	62	N. W.	Flying clouds.
22	63	58	N. W.	Cloudy. Rain at night.
23	61	58	N. W. fresh.	Cloudy.
24	59	59	N. W.	Clear. Thermom. 52° at daylight.
25	62	65	S. W. fresh.	Hazy. Clear. Thermom. 52° at sunrise.
26	65	54	N. W. very fresh.	Overcast. Flying clouds.
27	58	54	N. W.	Clear. Thermom. 48° at sunrise.
28	59	58	N. E. fresh.	Clear. Overcast. Thermom. 49° at sunrise.
29	58	56	N. fresh.	Hazy. Clear.
30	61	60	N. W., N. E.	Clear. Cloudy.

Total rain during the month	1.07 inches.
Mean temperature	64.52° Fahr.
Decrease of heat from last month	9.01°
Maximum	78°
Minimum	54°
Range of thermometer	24°

Hottest day, 3d.—Coldest day, 27th.

Laguira, September 2d.—A very severe shock of an earthquake was felt here, and at Caraccas.

Augusta, Geo. Sept. 3d.—Our river is lower than it has been within the memory of any of the witnesses of its present state. The sand bars are naked in some places, for nearly half a mile in length.

Georgetown, S. C. Sept. 8th.—A pretty severe gale commenced here on Friday last. Great injury was done to the cotton, rice and corn. Many fences and trees were blown down.

Boston, Mass. Sept. 8th.—Another brilliant aurora borealis was visible. The moon was unclouded, but her rays were not bright enough to prevent those of the northern light from being quite distinct.

Wilmington, Delaware, Sept. 9th.—The aurora borealis appeared in the northern heavens.

Augusta, Geo. Sept. 12th.—The Savannah river is now so low as to have been forded, a few days since, above the bridge by two boys.

Canandaigua, N. Y. Sept. 27th.—The season in this and some of the adjacent counties has been uncommonly dry.

New Orleans, Louisiana, Sept. 13th.—The Mississippi is falling slowly, and is ten feet five inches below high water mark. The weather is dry, cool, and pleasant.

Quebec, September 17th.—There was frost during last week sufficient to change the colour of the forest leaves, and destroy the potatoe stalks.

Providence, R. I. Sept. 22d.—During the last week the wind blew from the north-east, accompanied with as great a fall of rain as we have ever known within the same period. The streams in the vicinity are very high.

Greensburg, Penn. Sept. 23d.—At night a smart frost was experienced here.

Charleston, S. C. Sept. 24th.—The weather for the week past has been of the most agreeable temperature—neither too hot, nor too cold.

Richmond, Virginia, Sept. 27th.—The weather has been very dry for three or four weeks. James' river is lower than it has been for many years, and many of the mills upon it are suspended or retarded in their operations.

Georgetown, S. C. Sept. 14th.—The crops on Black river have suffered severely from the late heavy rains; the six mile bridge has been carried away. The weather continues remarkably cool for the season.

September 27th.—In consequence of a long continuance of dry weather, the crops of cotton in North Alabama and Tennessee have been in part destroyed.

OCTOBER, 1827.

DAYS.	FAHREN. THERMOM. 10 A. M.	10 P. M.	WINDS.	WEATHER.
1	63	62	N. E.	Overcast.
2	64	60	N. E.	Cloudy. Small rain at night.
3	64	62	S. W.	Cloudy. Drizzly. Thunder and lightning, P. M.
4	66	61	N. fresh.	Clear.
5	64	65	S. W.	Clear. Hazy.
6	62	54	N. W. fresh.	Clear. Shower at daylight.
7	55	48	N. W.	Clear. Thermom. 44° at daylight—white frost.
8	48	50	N. W.	Clear.
9	62	64	S. E.	Cloudy. Hard rain at night, with a gale from N. E.
10	60	51	N. W.	Cloudy. Rain. Clear.
11	54	52	N. E.	Clear. Cloudy. Frost at daylight.
12	56	54	N. E.	Cloudy. Rain at night.
13	57	54	N., N. W.	Overcast. Clear.
14	58	56	N. E.	Cloudy. Large rain.
15	60	62	S. W.	Clear. Cloudy. Rain.
16	52	50	N. W.	Clear.
17	45	50	S. W.	Clear.
18	45	52	S. W.	Clear.
19	56	55	S. W.	Clear.
20	58	60	S. W.	Clear.
21	63	62	S. W.	Clear. Cloudy.
22	60	60	N. E.	Cloudy. Rain.
23	63	60	S. W. fresh.	Clear.
24	60	59	N. W.	Clear.
25	52	49	N. W.	Clear.
26	50	50	N. W.	Clear. Cloudy. Sprinkle of hail.
27	48	47	N. W.	Clear.
28	59	57	S. W.	Hazy.
29	58	60	S. W.	Clear.
30	68	50	S. W.	Hazy. Rain at night.
31	49	50	N. W.	Clear.

Total rain during the month - - - - - -	6.25 inches.
Mean temperature - - - - - - - -	56.33° Fahr.
Decrease of heat from last month - - - -	8.19°
Maximum - - - - - - - - - -	68°
Minimum - - - - - - - - - -	45°
Range of thermometer - - - - - - -	23°

Hottest day, 30th.—Coldest day, 17th.

Easton, Penn. October 9th.—During a thunder storm in the evening, the Episcopal church in this borough was struck by lightning.

Providence, R. I. October 10th.—More rain has fallen by 15 per cent. this year, than has fallen for the last forty years.

Mobile, Alabama, October 13th.—From the 7th of September until the 9th of October, not a drop of rain fell, and vegetation was almost entirely suspended. We then had a fine shower, the weather turned cool, and on the 10th at night there was a slight frost.

Vermont, October 16th.—Snow has already fallen to the depth of a foot upon the White Mountains.

Quebec, October 18th.—The wind blew strong from the northward after the rain of the 15th, and several times in the day snow fell. At night it froze pretty hard. Early the next morning the hills to the north of the city were covered with snow. On the 17th at night the snow fell sufficient to cover most of the country around.

Wilksbarre, Penn. October 19th.—There has been much rain during the last few days, which has caused a rise in the Susquehanna.

Greensburg, Penn. October 22d.—Several flocks of wild geese flew over the town, and on the 24th we had a hail storm, preceded by cold northern winds.

Savannah, Geo. October 23d.—The weather is cool and pleasant, and strangers have little to fear in visiting the city.

New York, October 25th.—About 2 o'clock the wind suddenly shifted from west to north-west, which blew tremendously hard, accompanied with a light fall of hail. A heavy fall of snow happened between Staten Island and the city.

Washington City, D. C. October 26th.—We had a very slight fall of snow.

Richmond, Virginia, October 30th.—This is a late autumnal season. The leaves have hung longer on the trees, and have changed the colour of their foliage less than usual. The tomatoes are very little injured; and the cotton plant was still in the bloom.

St. Augustine, Florida, October 31st.—The crops of oranges are very abundant this season.

NOVEMBER, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	49	48	N. W.	Clear.
2	50	49	S. E.	Clear.
3	56	60	S. W.	Cloudy.
4	58	59	S. W.	Cloudy. Small rain. Clear.
5	57	49	N. W.	Clear.
6	50	52	N. E.	Clear. Cloudy. Large rain.
7	54	46	N., N. W.	Cloudy. Rain.
8	54	52	S. W., N. W.	Cloudy. Clear.
9	56	54	N. W.	Clear.
10	54	50	S. W.	Clear.
11	40	46	N. E.	Cloudy.
12	54	60	S. E.	Overcast.
13	49	48	N. W.	Cloudy. Rain. Clear.
14	46	40	N. W. very fresh.	Clear.
15	42	44	N. W.	Clear. Overcast.
16	41	44	N. W.	Clear.
17	43	48	S. W.	Clear.
18	44	43	N. W.	Clear.
19	40	41	N. W.	Cloudy. Clear.
20	40	39	N. W.	Clear.
21	40	37	N. W.	Clear.
22	36	35	W., S. W.	Overcast. Clear.
23	34	33	S. W.	Clear.
24	36	36	S. W.	Clear.
25	40	41	W.	Clear. Overcast.
26	35	34	N. W.	Clear.
27	39	38	N. W.	Clear.
28	38	38	N. W.	Clear.
29	45	46	S. W.	Cloudy. Rain all day.
30	56	50	S. W.	Cloudy. Rain.

Total rain during the month - - - - - -	4.10 inches.
Mean temperature - - - - - - - -	45.36 Fahr.
Decrease of heat from last month - - - - -	10.97°
Maximum - - - - - - - - - -	60°
Minimum - - - - - - - - - -	33°
Range of thermometer - - - - - - -	27°

Hottest day, 3d.—Coldest day, 23d.

St. Louis, Missouri, November 1st.—We were unexpectedly visited on Monday evening with a fall of snow. During the night it became cold, and ice of considerable thickness was formed. These indications of winter are unusually early.

Chester, Penn. November 6th.—Wild game, (pheasants and partridges,) were never more abundant in our neighbourhood than they are at present.

Albany, New York, Nov. 7th.—Snow began to fall at sunrise, and continued all day, when it was six inches deep.

Hartford, Connecticut, Nov. 8th.—In the night a severe snow storm commenced from the north, and left us about a foot of snow on the level. So great and early a fall of snow is not within the recollection of our oldest citizens. The mail coach from Litchfield to this city was actually stopped by the heavy drifts of snow.

Otsego County, New York, Nov. 10th.—The country generally is covered with snow, and the sleighing good.

New Haven, Connecticut, Nov. 13th.—The north-west storm at night was very severe, and at sea, and along the coast, many lives and much property have been lost.

Boston, Mass. Nov. 14th.—It commenced raining in the morning of the 13th, and continued with great violence till some time in the night. The wind is strong from north-west, and the snow several inches deep.

Washington City, D. C. Nov. 18th.—About twelve o'clock a steady fall of snow commenced, and continued all the afternoon.

Petersburg, Virginia, Nov. 18th.—A considerable fall of snow occurred in the evening, and ice formed in the shade for several days past.

Kingston, New York, Nov. 21st.—We never before experienced such extreme cold weather, so early in the autumn. Some of our farmers have not been enabled to gather and house their corn, potatoes, apples, turnips, pumpkins, &c. until they were covered with snow and frost.

Charleston, S. C. Nov. 21st.—For several weeks past the weather has been dry and warm. On the night of the 19th, the wind changed to the north, and became quite cool. On the morning of the 20th we had a white frost, and in the evening a slight fall of rain and hail.

Washington City, D. C. Nov. 23d.—We have winter here thus early. The ice in the Tiber is an inch thick, and the Potomac is frozen nearly, or quite out to the channel.

Albany, New York, Nov. 23d.—The canal is now closed with ice between this city and Utica. It was navigable the last year until the 9th of December.

Warren, Penn. Nov. 25th.—The snow in this place is about one foot deep.

Harrisburg, Penn. Nov. 26th.—Winter has come upon us with great severity. Much snow has fallen to the north.

New Brunswick, N. J. Nov. 28th.—We are experiencing the coldness and inclemency of mid-winter.

DECEMBER.

Kennebeck, Maine, December 5th.—As the sun rose over a dark cloud, that stretched along the eastern horizon, two splendidly luminous spots, on each side of the sun, and at a distance of fifteen to twenty degrees from it were seen. Their form was that of a short segment of a circle.

Quebec, December 14th.—The thermometer fell to zero this morning. Snow has fallen several times during the last eight days.

Flemington, New Jersey, December 15th.—A perfect and beautiful rainbow was formed between seven and eight o'clock. The weather has been wet this month, and the rivers and brooks are high.

Albany, New York, December 17th.—At night the snow fell six inches deep.

DECEMBER, 1827.

DAYS.	FAHREN. THERMOM.		WINDS.	WEATHER.
	10 A. M.	10 P. M.		
1	38	44	S. W.	Clear. Overcast.
2	46	46	S. W.	Clear.
3	45	44	S. W.	Clear.
4	45	50	S. W.	Hazy.
5	50	49	W.	Cloudy. Rain.
6	47	46	E.	Cloudy. Rain.
7	52	49	S. W.	Cloudy. Rain.
8	42	48	N. E.	Cloudy. Rain.
9	52	58	S. W.	Cloudy. Heavy fog.
10	58	57	S. W.	Cloudy. Rain.
11	42	39	W.	Cloudy. Clear.
12	39	38	S. W.	Clear.
13	38	44	N.	Clear.
14	42	50	S. W.	Hazy. Foggy.
15	54	52	S. W.	Cloudy.
16	44	41	N. E.	Cloudy. Rain.
17	42	42	N. E.	Cloudy. Rain.
18	43	42	N. E.	Cloudy. Rain.
19	42	40	N. W.	Cloudy. Clear.
20	39	39	W.	Cloudy.
21	40	39	N. W.	Flying clouds.
22	36	33	E.	Cloudy. Sprinkle of snow. Clear.
23	32	30	N. E.	Clear. Cloudy.
24	36	33	N. E.	Cloudy.
25	38	41	S. W.	Cloudy.
26	43	34	N. W.	Clear.
27	34	33	N. E.	Cloudy. Sleet all day.
28	42	41	S. W., N. W.	Clear.
29	42	40	N. E.	Cloudy.
30	34	40	S. W.	Clear. Cloudy.
31	38	38	S. W.	Clear.

Total rain during the month - - - -	3.62 inches.
Mean temperature - - - - - - - -	42.31° Fahr.
Decrease of heat from last month - - -	3.05°
Maximum - - - - - - - - - -	58°
Minimum - - - - - - - - - -	30°
Range of thermometer - - - - - -	28°

Hottest day, 10th.—Coldest day, 23d.

Pottsville, Penn. December 1st.—For a few days past we have had heavy rains accompanied with hail, and a great rise in the Schuylkill.

Buffalo, December 4th.—A violent storm of wind and snow set in at night which lasted twenty hours. Snow fell to the depth of eight or ten inches on a level.

Result of all the Meteorological Observations made in the City of Philadelphia and on Tinicum Island in the year 1827.

Months.	THERMOMETER.						Number of fair days.	Number of cloudy days.	Depth of Rain.	Prevailing Winds.	Prevailing Weather of each Month.
	Mean Temperature.	Maximum.	Minimum.	Range of Thermom.	Hottest days.	Coldest days.					
January	29.6 °	44°	11°	33°	28th.	18th, 20th.	11	20	2 70-100	N. W., S. W.	Cloudy and cold.
Feb.	38.45	54	20	34	21st, 28th.	11th.	12	16	3 60-100	N. W., S. W.	Cloudy, cold, and moderately wet.
March	45.61	62	35	27	27th.	4th, 14th.	17	14	1 36-100	N. W., S. W.	Fair, cool, and dry.
April	56.51	63	43	25	11th, 12th.	1st.	11	19	2 90-100	N. W., S. W.	Cloudy, wet, and unpleasant.
May	61.48	78	46	32	26th, 27th.	1st.	22	9	2 40-100	N. W., S. W.	Very fair, and moderate in rain and temperature.
June	68.20	78	58	20	16th.	3d.	18	12	2 70-100	S. W., N. W.	Moderate and fair.
July	74.34	86	65	21	3d.	24th.	20	11	3 08-100	N. W., S. W.	Fair, agreeable, and moderate.
August	73.53	90	63	27	6th.	17th, 28th.	19	12	6 04-100	S. W., N. E.	Fair, moderate, and very moist.
Sept.	64.52	78	54	24	3d.	27th.	20	10	1 07-100	N. W., S. W.	Very dry, fair, and pleasant.
October	56.33	68	45	23	30th.	17th.	20	11	6 25-100	S. W., N. W.	Fair, very moist, and cool.
Nov.	45.36	60	33	27	3d.	23d.	19	11	4 10-100	N. W., S. W.	Cool, moist, and fair.
Dec.	42.31	58	30	28	10th.	23d.	10	21	3 62-100	S. W., N. E.	Cloudy, cool, and wet.

Prevailing winds of the year, S. W., N. W.—Total rain of the year, 39 82-100 inches.

Number of fair days, 199.—Number of cloudy days, 166.—Hottest month, July.—Coldest month, January.

Greatest range of thermometer occurred in February, 34°.—The mercury was the highest, August 6th, 90°—lowest, January 16th, 11°.

Thunder and lightning occurred in fourteen days.—Mean temperature of the year, 54.64°

The crops of wheat and rye, and indeed all other vegetable productions throughout Pennsylvania, have this year been uncommonly productive. The grain is large and full, and nearly all must have been housed, without sustaining any damage from the weather. Indian corn is perhaps an exception to this general remark. In some counties it suffered much from the heat and drought, but the farmers almost every where rejoice in the midst of a bountiful harvest.

It may be recorded as rather singular, that the winds this year blew from the N. W. in 154 days, as follows:—In January, 16 days—February, 14—March, 18—April, 12—May, 12—June, 11—July, 16—August, 10—September, 15—October, 10—November, 16—and December, 4 days.

Art. XI. *On the Pathological or Abnormal State of the Circulation.* By Samuel Jackson, M. D. Assistant to the Professor of the Institues and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

THE circulation, executed by a complex apparatus diffused throughout the organism, and entering into the mode of being of every organ, is necessarily exposed to suffer frequent and varied derangements. A large proportion of the disorders of the economy attaches to some irregularity in the circulation, either limited to particular organs, or involving, to various extent, the whole of the function. It is not our design here, to enter into the particular details of all the diversities of functional disturbances manifested by the circulation, but merely to indicate the general character of the most important, and the causes of their production.

The circulation may be thrown into an abnormal state, 1st, by the quantity or quality of the circulating nutritive fluid; and 2d, by a pathological condition of the various organs by which it is executed.

Of the Blood as Affecting the Circulation.—Plethora or hyperemia gives a force and energy to the circulation by the excessive stimulation of the blood, and fulness of the vessels, that often passes into a pathological state. The functions of the heart, of the brain, and other organs, are irregularly exercised, hæmorrhages are induced, and apoplexies, and various diseases of repletion and excitation, are attendants on this state.

A reverse condition awakens also pathological phenomena not less numerous. The sudden diminution of the quantity of the blood by hæmorrhage or venesection, produces very considerable disorders in the circulation, and disturbances in the functions of different important organs. After the first impression of exhaustion, a species of reaction ensues, which may easily be. and most probably not unfrequently is, mistaken for excitement. The action of the heart is quickened, palpitations are excited; the pulse is frequent, and exhibits often a deceptive fulness. With this state of the circulation there also frequently exist distressing and confused sounds in the head, throbbing, and other unpleasant sensations, sometimes delirium, with nervous pains in various parts similar to those of inflammation, oppression of the chest, and difficult respiration.

The feebleness of the pulse, even when full, the palor, relaxation, coolness, and moisture of the skin, the sense of exhaustion and sinking experienced by the patient, are circumstances that indicate the true character of this condition, and will guard an attentive observer against the dangerous error of mistaking it for an active inflammatory excitement, which it in part simulates, requiring depletion. Dr. Marshall Hall has written professedly on this state, the consequence of undue depletion, but he may be suspected of pushing his favourite doctrine too far, and of seeing exhaustion from depletion where it truly does not exist. The irregularity of the capillary excitement, and distribution of its circulation, such as attends on extreme congestions, in which some organs are oppressed by repletion, and the functions of others are nearly suspended by the diminution of their circulatory actions, exhibit many of the symptoms he attributes to general exhaustion from loss of blood. Some of his cases are of this character.

The deficiency of colouring matter and of fibrin in the blood, is productive of trains of symptoms precisely similar to those proceeding from excessive losses of blood. The absence of these principles is not an unfrequent occurrence in the course of chronic diseases of the digestive and respiratory organs, especially in those of the lymphatic temperament, in protracted intermittents, and occasionally takes place without any assignable cause. This defective state of the red globules is characterized, in addition to the preceding symptoms, by the bombycinous aspect of the skin, the bloodless hue of the mucous tissue of the mouth, tongue, fauces, and of the lips, disposition to anasarcous swellings, extreme lassitude, and incapacity for active exertions.

The brain and nervous system generally appear more especially to suffer, and to experience great disorder of their functions, from sudden deperditions of the sanguineous humour, and defective hematosis, when this last occurs rapidly. Paralysis has frequently been an immediate result of excessive detractions of blood. It is most probable that the disturbances of the circulatory functions induced by excessive losses of blood, are a consequence of the disorder into which the functions of the nervous system are thrown.

It is scarcely possible to explain satisfactorily the immediate cause of this disordered state of the nervous functions. Our ignorance of the nature of the nervous phenomena, and of their production, must render such attempts, if not entirely, at least, for the most part, nugatory. The following rationale is proposed as an approach to a solution of the problem. A particular constitution of organs, which, in a limited range, constitutes their natural or healthy mode of being, is essential to the regular and natural exercise of their functions. A certain quantity of the sanguine nutritive humour, or oxygenated blood, definite for each organ, is indispensable to this constitution of the organs. This proportion of blood is *organic*, as much a part of the organ as its vascular or parenchymatous structure. All deviations from this proportion are an organic alteration, and necessarily are attended with an aberration of function. Now, the organic or vital actions, on which depend the functional phenomena, consist in molecular movements constantly existing between the molecules of the nutritive humour, or blood, and the solids. The functional phenomena, then, depend on two circumstances—1st, a definite amount of sanguine fluid in each organ; and 2d, a certain activity in the interior molecular movements of the solids and fluids of the organ. The morbid derangements of the functional phenomena connected with the circulatory movements may then be arranged in four categories or classes:—1. When the quantity of the sanguineous fluid is augmented, and the *movements* are *quickened*, the functional phenomena are executed with greater energy, and their disordered action is from excess—sthenia. 2. When the quantity is increased, and the *movements* are *diminished*, the functional phenomena are depressed or deteriorated—congestion. 3. When the amount of the organic fluid is *lessened*, and the movements are *diminished*, the functional phenomena are enfeebled, and fail, or are suspended—asthenia. 4. When the quantity is *deficient*, and the movements are *accelerated*, the functional phenomena are activated, though irregular—are in excess, but are speedily exhausted.

In a healthy or natural state of the organs, excessive losses of blood produce diminution of the organic, and with them, of the functional actions. This is manifested in intellectual and muscular feebleness, diminished sensibility, weakness of the circulation, lessened temperature, cessation of the secretions. and syncope. The phenomena belonging to the third category prevail.

But when an organ entering into the roll of the sympathies is the seat of an active irritation, which is not eradicated by the vascular depletion, the brain and nervous system, as the centre and organ of the sympathies, continue to experience the irradiation of this irritation, are excited, their organic actions, or the molecular movements of their organic fluid and solids, are quickened, and they are placed in the conditions of the fourth category—that is, their functional phenomena are violently disturbed, and rapidly exhausted. The functions of all the organs connected with the nervous system must, consequently, be equally disordered. Hence result the various symptoms, so often deceptive, that succeed to copious depletion, and excessive losses of fluids, which may be confounded with, and be mistaken for purely sthenic symptoms, or excess of actions attended with force or power, and demanding depletory measures.

This rationale is further illustrated by the fact, that the disturbances of the nervous phenomena, induced by sanguineous losses, are temporarily relieved by a further depletion, which reduces for a short period the cerebral excitement, though, ultimately, they are highly aggravated by the proceeding. It explains also the necessity, in the treatment of this state, of keeping in check the cerebral excitement by the application of cold and sedative means to the head, with occasionally topical depletion from the temples, or behind the ears, and revulsive excitement of the extremities, while, internally, are employed diffusible stimuli, tonics, anodynes, and an analeptic regimen.

Besides the alterations of the blood noticed, others occur, which are not as easily discerned, but may exercise very considerable influence over the circulatory phenomena. In fevers of malignant, or of the adynamic and ataxic character, the blood often is of a much darker hue than in a natural state, being but partially influenced by respiration, and its plasticity is greatly diminished. This anormal condition of the blood, it is not improbable, constitutes one of the principal phenomena of these fevers, imparting to them their peculiar characters.

Of the Vessels as affecting the Circulation.—The vessels, as a conduit between the respiratory capillaries and the pulmonary vascular parenchyma, and the nutritive and secretory capillaries and vascular parenchyma, transmitting the fluids between the two, exercise a very decisive controlling influence on the regularity of the circulation. As has already been shown, they possess no active share in the circulation, but act only from their mechanical construction and physical properties, in both which respects they are most admirably adapted for the purposes of the circulation, being the most perfect hydraulic apparatus.

The inner membrane, which is in reality the true or proper vessel, is a variety of the serous tissue; it forms alone the capillaries, and is continuous with the areolar or vascular parenchyma, the last term of the circulation, in which the fluids move in every direction. From this continuity, inflammation affecting the capillaries and parenchyma, is often extended into the vessels, and in wide-spread inflammations, occupying a large portion of the organism, the inner membrane of the vessels is found to be inflamed throughout the whole vascular system.

It occurs also in congestions of the lungs in severe bronchitis, pneumonitis, and in some cases of scarlatina maligna. From the imperfect performance of respiration, the blood loses its property of exciting the actions of the brain and nervous system generally—and a state of adynamic prostration is induced.

Inflammation of the inner membrane of the vessels, like inflammation of the serous tissues, produces effusion of plastic lymph, sometimes in considerable quantities, diminishing the caliber of the vessels, which is also, in some instances, completely obliterated. This last circumstance is of more frequent occurrence in the veins than the arteries, and occasions serious embarrassment to the circulation, when it occurs in the large venous trunks.

In the arteries the inner membrane, or true vascular coat, is strengthened by an additional coat formed of the elastic fibrous tissue. The toughness and elasticity of this tissue fits it admirably for this purpose; it resists the impulse of the systole of the heart, and, as was previously explained, by its elastic reaction, continues the momentum derived from the contraction of the ventricles. When this coat is, however, the seat of a continued irritation, as it often is, and its nutrition is impaired or perverted, its physical properties become affected. Its elasticity is diminished, it loses its capacity to resist the impulse of the heart, but yields to it, and the diameter of the vessel enlarges at the point where it gives way. When the distention happens to be considerable, a break or fissure takes place, and the external or cellular coat is extended, forming a pouch. This state constitutes the true aneurism of the arteries. The pouch is not exclusively formed of the cellular coat, for this inflaming throws out numerous layers of coagulating lymph, which assist in strengthening the tumour, and prevents, for a considerable period, its final rupture.

Considerable dilatation occurs, at times, throughout the aorta from chronic affection of the fibrous coat lessening its elasticity, though without forming aneurisms. The force of the circulation is then greatly diminished.

The arteries, in some instances, are of a caliber too contracted, and the fibrous coat too unyielding, to give a free passage to the columns of blood pushed through them, especially under the operation of excitement from exercise, or other causes. The resistance the heart experiences in the propulsion of the blood, subjects that organ to frequent derangement of its function, and generally induces, ultimately, its dilatation, or other alteration of structure. In one instance of this kind that fell under my notice in the Alms-house Infirmary, which terminated fatally from excessive dilatation of the ventricles, the descending aorta was not larger in diameter than the usual size of the common iliac.

The fibrous coat of the arteries is frequently denaturalized by a deposit of calcareous matter, converting it into an osseous structure. Its elasticity is entirely lost, and the vessel ceases to assist in the support of the circulation, as it can no longer react on the contained column of blood.

The cavity of the arteries is sometimes obliterated, so as to arrest entirely the passage of the blood through them. This circumstance is of more frequent occurrence in the small, than large arteries, though several cases are recorded in which it was presented in the aorta.

The middle coat of the veins is devoid of the elasticity possessed by that of the arteries. It is not necessary to their office, as they are not exposed to the impulsive action of the heart. Like the middle coat of the arteries, it is subject to softening, when it easily ruptures, and to thickening or hypertrophy, when it approaches in some respects to the fibrous tunic of the arteries.

The coats of the veins, from their distensible character, frequently yield to the pressure of the blood accumulated in them; and this circumstance is more certainly occasioned, when the middle coat has sustained a lesion by a vitiation of its nutrition, from irritation, or other cause. The enlargement of the cavities of the veins produced in this manner, is termed varices; and, lately, by Briquet, phlebectasia, of which various species exist. They are analogous to the true aneurism of the arteries. This state is most usual in the superficial veins of the lower extremities, though it has been met with in the veins of most portions of the body. A varicose condition of the veins proves an embarrassment to the local circulation, and gives origin often to serious local affections, ultimately deranging the general health.

The cavities of the veins are found in some instances very much contracted, and even entirely obliterated. This defect may proceed from adhesions of the internal membrane, a consequence of its inflammation, or the coagulation of the blood within the vessel. The circulation of the veins is also sometimes obstructed by the formation of considerable coagula floating loosely in the veins, or having a partial adhesion.

Pus is very commonly found in the veins in the vicinity of inflamed organs; and it is this circumstance, which modern researches would appear to demonstrate in a positive manner, that is productive of many of those secondary disturbances, which have been idly explained as depending on constitutional irritation, sympathy, and other indefinite causes. It is an occurrence repeatedly verified as succeeding to surgical operations, fractures, and phlebotomy, and as attached to suppurations of the internal organs. It occurs with frequency in acute metritis, succeeding to accouchement, and in the affection of the lying-in termed phlegmasia alba dolens. In many instances it has been remarked, that pus is found, not only in the veins of the diseased structure, but in many other veins, in the parenchyma of the organs, substance of the muscles, and in the articulations. The pus thus distributed in numerous depots is not derived from absorption, at least uniformly. It is secreted by the inner membrane of the veins, into which the irritation of the parenchyma of the organs, with which it is continuous, has extended, and is thence carried along with the circulatory torrent, and disseminated throughout the economy.

Of the Heart as Productive of a Pathological State of the Circulation.—From the importance of the office deputed to the heart in the circulation, every departure from its normal condition, either of structure or action, is productive of more or less disorder of this function. The heart being a mechanical power established to move the blood in masses, mechanically, between the two systems of respiratory and nutritive capillaries and the parenchymatous vascular structure of the organs, is, therefore, essential to the maintenance of their circulation, on which all the vital phenomena immediately depend. Any disability of the heart is, according to its degree, productive, consequently, of disturbance of the circulatory function in its whole extent.

The variety of tissue, the complicated arrangement, and the diversified connexions of the heart with the organs of the economy, expose it to numerous sources of disease, and to frequent disturbance of its functional offices.

The perfect freedom of the heart's action, indispensable to its function in the circulation, is secured by the serous membrane—the pericardium—which envelopes it in a peculiar manner, placing the polished, smooth, and lubricated surfaces of this capsule in contact with each other.

Like other serous membranes, the pericardium is very susceptible of inflammatory irritation. When acute, the extreme sensibility this tissue acquires, produces an agony that nearly suspends the action of the heart, and places the patient in eminent jeopardy. The deterioration of its polished surface by the depositions of layers of plastic lymph, and the cessation of its lubricating secretion, embarrass likewise the action of the heart, and entail an impairment of its function most generally fatal in its results. This membrane is, also, the seat of a serous effusion producing a morbid collection of fluid—a form of dropsy—interfering so materially with the heart in the exercise of its office, as to prove a fatal affection.

Fibrous tissue derived from the fascia superficialis, as demonstrated by the lamented GODMAN,* is combined with serous tissue in the formation of the pericardium, and renders this capsule liable to rheumatic inflammation, so frequently transferred from the articular fibrous tissues to the heart. This translation most probably is facilitated, and is explained by the connexion pointed out, a connexion more clearly elucidated by Godman, than by any preceding anatomist.

The interior lining membrane of the heart, continuous with that of the vessels, and of the same nature, is subject to the different morbid lesions indicated already as affecting it in the vessels. It is the seat of acute and chronic inflammation, of different secretions, the deposition of plastic lymph, of thickening, softening, ulceration, and induration. The action of the heart, and, consequently, the whole circulation, experience various irregularities when these defective conditions of this tissue exist. The disorders they occasion are more marked and aggravated when the valvular structure of the heart, formed of this membrane, happens to be the location of these affections. The regular play of their movements, which govern the order of the circulation, is then greatly interrupted, and the circulation is thrown into extreme disturbance.

The auriculo-ventricular valves of the left heart, and the coronary valves at the mouth of the aorta, are those most commonly affected. It is rare to find the valves in the right heart deviating from a natural state.

The substance of the heart itself is subject to various pathological modifications. Whether the muscular fibre is affected with acute inflammation, is somewhat doubtful, and it is not yet established that a true carditis does occur. Most cases considered as such, are inflammations of the pericardium, or the internal lining membrane of the heart. Approaching to an inflammatory state, are the sanguine effusions which sometimes take place into the substance of the heart, constituting a true apoplexy of that organ.

In the mode of its *nutrition*, the heart departs, like the other organs, from its natural order. Of this character is the excessive thickening of its parietes, or *hypertrophia*, without a degeneration of its structure. This condition may prevail in the whole of the heart, or be present only in a portion. The first is a rare circumstance. I have never met with an instance of it, though cases are on record. Most commonly the left ventricle exhibits the hypertrophied state. The right ventricle is seldom the seat of this lesion, and the auricles are still more rarely affected by it. I have seen but a few cases of hypertrophy of the auricles, and then it was the left that manifested this state, and was coincident with hypertrophy of the same ventricle.

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* Anatomical Investigations, by J. D. Godman, M. D.

Cardiac hypertrophy is a consequence, most generally, of a light sanguine irritation, simply augmenting its nutritive actions, which may be excited in various manners. I have seen hypertrophy repeatedly to succeed rheumatic attacks, which had affected the heart by metastasis. In several instances it followed on pericarditis; chronic irritation of the stomach I have known to be its exciting cause; and in one case, attended with softening both of the heart and aorta, ending in a rupture, mental anxiety, and distress appeared to have been the originating cause.

The reverse state of the heart, or its *atrophia*, occurs, but with less frequency. The walls of the heart then become thinner, and in an extreme degree, the muscular fibres disappear entirely. In a case of sudden death, I found on examination the right ventricle having the appearance and the thickness of the pericardial capsule—it was semitransparent.

The consistency of the cardiac structure undergoes changes from a vitiation of its nutrition. It exhibits at times a morbid hardness or induration, which causes it to sound when struck like thick sole-leather, and to resist the scalpel when cut. It exhibits also various degrees of softening when it acquires unusual flaccidity, and its fibres break down with slight efforts.

The capacity of the cardiac cavities presents also different anomalies which disorder the circulation. The most usual is their *dilatation* or enlargement, and occurs most frequently in the right auricle and ventricle. It affects also the left ventricle and auricle, and some instances are recorded of all the cavities having been found unnaturally enlarged.

Dilatation of the cavities may coexist with any of the preceding conditions of the heart. Thus, it is conjoined with hypertrophy or thickening—the active aneurism of CORVISART—with atrophy or thinning—the passive aneurism of Corvisart—with induration, and with softening.

Dilatation is sometimes restricted to a limited portion of a cavity, and, then, the formation of a pouch or sac of various size opening into the cavity, is a frequent result. This is analogous to the false aneurism of the arteries. I have met with only a single example of this nature. In that case the left ventricle was hypertrophied, having a pouch connected with it nearly of the size of a large hen's egg, the walls of which were also thickened, communicating with the ventricle near the apex. The existence of this pouch was suspected, and announced several months previous to the death of the patient, from the strong pulsation and impulse, detected by the stethoscope, in the left lateral region, about the fourth rib.

A common cause of dilatation is an obstruction offered to the blood in the course of the circulation, which accumulates that fluid in the heart. This sometimes arises from a morbid state of the valvular structure, sometimes from contraction in the caliber of the arteries, and sometimes from congestions in the capillaries. This last is more common and efficient as a cause of dilatation for the right, than the left cavities. From the vicinity of the pulmonary capillaries to the heart, an obstruction to the transmission of the blood through them, is immediately experienced by the right cavities, whose parietes, being feebler than those of the left, yield to the distention they experience. On this account, acute and chronic inflammations of the lungs, of the bronchial mucous membrane, and the congestions and alterations in the pulmonary structure, impeding the passage of the blood, are so frequently attended with affections of the heart, inducing derangements of its structure. Dilatation, however, sometimes occurs from causes which it is not possible to appreciate.

The capacity of the cavities is frequently diminished, to an extent, sometimes, interfering with the regularity of the circulation. This diminution may be concurrent with a natural thickness of the parietes, with their hypertrophy, their atrophy, induration, or softening. It is most common in the ventricles, and is produced at times, especially in the right, by a thickening of the interventricular septum. It also proceeds occasionally from enlargement of the columnæ carneæ. When hypertrophy is unaccompanied with dilatation, and concentres in its progress, the cavity is necessarily contracted.

The actions of the heart are subject to be deranged from irregularities in the nervous centres with which it is in connexion. The influence of the passions is well known, but the disorders induced in the functions of the heart, emanating from the ganglionic system, are very imperfectly appreciated. From this source are produced a great variety of cardiac disorders, many of them highly distressing, and which ultimately terminate, in some cases, if not relieved, in the production of incurable organic disease of the heart. The cardiac plexus, most probably, is the portion of the nervous organs in which the disease is located, the symptoms existing in the heart being only a functional disturbance.

To this cause are to be attributed some cases of palpitations excited by light moral impressions, by exercise, and which are spontaneously produced at certain times, while, at other periods, the action of the heart is perfectly natural. Some of those cases so loosely designated angina pectoris, in which no organic disease of the heart can be detected, are of the same character. Spasms, which unquestionably affect the heart, originate in diseases of that plexus.

A functional disorder of the heart, respecting which I have several times been consulted, appears to me to depend, also, on an affection of the nervous ganglionic centres connected with this organ. The action of the heart, in one case, suddenly became very feeble, and a species of lypothymia took place, accompanied with a sentiment of dying. In another case, the pulse gradually diminished in sleep, and finally nearly ceased, when the patient awoke in great distress with a similar deathly feeling. In both these cases not the least sign of disease of the heart could be detected by examination.

Of the Capillaries and Vascular Parenchyma, as Affecting Pathologically the Circulation.—The capillaries appear to be formed of the inner membrane, the real vascular membrane of the arteries and veins, and the lymphatics are formed of a tissue precisely similar. This membrane, constituting the vessels, is continuous with a similar membrane existing in the parenchyma of the organs, of which it composes a large portion, arranged by its numerous septa, into a cellular or areolar form.

The vascular, or circulatory system, is not, then, to be regarded as a simple arrangement of vessels, but its principal portion is an immense serous sac or bag, having prolongations or ramifications into the different organs, and divided into innumerable cells or vacuolæ, into which the vessels open—the arteries being efferent, or bringing supplies of blood, the veins and lymphatics being afferent, or returning, the one the coloured, the other the colourless portions of the blood, from the vacuolæ or cells of the vascular parenchyma. This precise arrangement of the vascular system, cannot be positively demonstrated in the general structure of the organs, though an approach to it may be observed in the mucous membranes when prepared and examined with a microscope. In the erectile tissues, as they have been named, such as the penis, clitoris, nymphæ, and nipple, and in the spleen, especially when examined in the larger animals, as the horse and the elephant, this arrangement of the vascular system is most clearly demonstrated. The diploë of the cranial bones exhibits the same disposition of the vascular system. In these organs the structure is cavernous or spongy, the cells of which are formed by the inner membrane of the vessels, and not by common cellular tissue, as was supposed by many anatomists. The cells of the erectile tissue are, in reality, as Malpighi described them, a species of vascular sinus, or dilatation of the vessels themselves. The papillæ and villi of the mucous membranes, it is ascertained, have an analogous structure. The erectile tissue, or organs, may be regarded as exhibiting, on a magnified scale, the disposition of the vascular arrangement for the circulatory or sanguine nutritive humour in the parenchyma or intimate structure of the organism.

The circulation or movement of the blood in the erectile tissues and organs, is not restricted, it is obvious, to mere vessels. It is effused out of the vessels, properly speaking, into a cavernous, spongy, and cellular structure, whence it returns again into vessels, when its transport to other organs is required, for which purpose the vessels are provided. The movements or circulation of the blood in these tissues, is accomplished, consequently, by a force acting in the tissues themselves, and not foreign to them. When they are excited, an afflux of blood is directed to them, distending their cellular or cavernous structure, and causing the phenomenon of erection. This is analogous to, and is a species of congestion. While the excitement continues, the affluxion persists, and the excess of blood producing the erection is dissipated, or re-assumes the circulatory movement, only when the excitement is abated. Adopting the erectile tissue as the obvious type of the ultimate vascular arrangement, in its circulation is figured the circulation of the parenchyma of the organs generally. The last circulation is thus ascertained to take place in minute capillaries, and in a spongy or cellular structure of extreme tenuity, the cellules in the coloured tissues, probably not exceeding the size of a blood globule, and, in the white tissues, being of a still smaller size.

The foregoing preliminaries were required to understand the nature and the mode of production of the pathological conditions of the capillary and parenchymatous circulation. The capillary and vascular parenchyma contains the larger proportion of the blood, and it is the seat of the molecular movements, constituting the organic or vital actions, and, consequently, is interested, in some of its portions, in almost every pathological condition. Every where continuous and connected, the disturbances of a part, when possessing any intensity, are felt throughout the whole, deranging the order of the circulatory actions, imparting to them irregular, fluctuating, or undulatory movements, and overthrowing the equilibrium, that, in a normal state, prevails in the distribution of the circulatory humour amongst the organs.

In the healthy or normal state, the excitement of the organs being in every portion of the organism, in an equable ratio, adapted to the structure, properties, and functions of the organs, the capillary and parenchymatous circulation is in a just equipoise. But, when an undue excitement or irritation is developed in an organ or tissue, it becomes the centre of converging and confluent movements of the capillary and parenchymatous circulation, producing an affluxion towards it, and destroying the natural equilibrium in the distribution of the sanguine nutritive and excitative humour. This fluxionary movement possesses various extent, governed by the intensity of the irritation, the ascendency the organ affected holds in the economy, and degree of power in the other portions of the economy capable of resisting the attractive influence of the irritated centre of fluxion. When limited, the phenomena of local inflammations are present, which may be repeated by sympathy in other organs. It is thus experienced, under certain circumstances, extensively in the economy, producing congestions of different intensity, and affecting different organs. The phenomena of irritation, of inflammation, and of congestion, with their consequences, are, then, of the same order, and belong entirely to the capillary and vascular parenchyma, and the capillary and parenchymatous circulation. One feature is common to these morbid states. They are attended with unnatural accumulation of blood where developed, with corresponding diminution in remoter organs, which do not partake of those conditions, the greatest deficiency existing generally in the counterpoints to the greatest excess. Thus, when the irritation and congestion are placed in the cerebral organs, the extremities are cold from the deficiency of their circulation. In the congestions of the internal teguments, the external are pale, cold, and inexcitable. This unhinging of the capillary and parenchymatous circulation, is an essential character of the pathological state. The due adjustment of this circulation to the organs, and the stability of its libration throughout the economy, are the objects to be accomplished by therapeutic and remedial proceedings, either for a restoration to health, or for protection against disease.

The capillary and parenchymatous circulation is endowed with an excessive mobility. The affluxive movements just described, are excited, in particular instances, with extraordinary promptness, and wide diffusion. *It is this circumstance that constitutes paroxysmal diseases*, whatever may be their phenomena or symptoms, derived from the functions of the organs affected. Simple intermittent and hectic fevers are a light form of this state, excited by feeble irritations, in which the congestive accumulation is slight, and awakens reaction, in the manner hereafter to be noticed. The reaction is a curative process, which dissipates the congestion, and diminishes, sometimes removes entirely, the primitive irritation, and, then, the paroxysm terminates, the circulatory equilibrium being restored, until renewed by the return of the local irritation.

Malignant intermittents are a more aggravated form of the same condition. The disorder of the capillary and parenchymatous circulation is more complete; the interior congestion is excessive, overwhelming the organs that are its seat, prostrating their forces, and incapacitating them, by the loss of their vitality, from producing those irradiations into the organism, constituting reaction; while the other organs, abandoned by their circulating fluid, have their actions alarmingly enfeebled, and reduced to the lowest state of exhaustion.

The transport of the capillary and parenchymatous circulation towards a point of affluxion, is often accomplished in a rapid manner, precipitating the fluids on the organ, the seat of the attractive irritation, disordering its functions, or overwhelming it with a fatal deluge. This is the movement designated by the terms raptus and molimen, by the older writers, and is often accompanied with the effusion or extravasation of blood. When the raptus is directed towards the tegumentary tissues, and is attended with sanguine effusion, it constitutes the various hæmorrhages, but when concentrated on organs having no exterior communications, and the effusion takes place into the common cellular tissue, or interstices of the structure, then are produced the various sanguine apoplexies.

The raptus of affluxion occasions in many instances merely a temporary congestion, disordering the function of the organ; but the irritation which had excited the abnormal accumulation of blood subsiding, probably by the suspension of the organic actions from the congestion itself, the blood resumes its usual course in the circulation, the congestion is dissipated, and the functions resume their natural order. When the brain is the organ the subject of this affluxive raptus, we have excited, if of a mild grade, the phenomena characterizing *hysteria;* or, if of a higher grade, the production of *epilepsy.*

Should the mucous membrane of the bronchial tubes be the seat of this sudden congestive flux, the turgescence that ensues blocks up the caliber of the small bronchi, and the admission of the air into the air vesicles is interrupted or entirely prevented. Embarrassed respiration, or dyspnœa, immediately ensues as a consequence of this state, and constitutes one of the forms of *asthma.* The same state is not unfrequent in the mucous membrane of the larynx, especially covering the cordæ vocales, stuffing up the rima glottidis by the turgescence induced in the membrane. A croupy respiration and cough are speedily developed, and are supposed to be occasioned by spasm—it has been called spasmodic croup. All the excretory ducts are subject to be affected in a similar manner, and the passage of the fluids they eliminate is arrested. Acute irritation of the urethra will produce so great a turgescence of its mucous membrane, as to prevent entirely the escape of the urine, and a complete suppression is suddenly induced. This state is mistaken for spasm, and the arrest of the urine is attributed to spasmodic stricture. The same occurs in the ureters, and in the ductus choledochus in acute duodenitis, and the symptoms are attributed to the passage of renal calculi, and of gall-stones.

In all congestive and paroxysmal diseases, their essential character consists in this unhinging of the whole capillary and parenchymatous circulation, and its concentration on the organ, the seat of the perturbating irritation. The treatment of these diseases must be made to repose on this basis. Its object will be, 1st, to impart force and stability to the actions of the general capillary and parenchymatous structure and circulation; and, 2d, to diminish or eradicate the local irritation, the first moving power creating the disturbance. If we cannot succeed immediately in the last object, the attainment of the first will be sufficient to arrest the paroxysmal type. This measure is accomplished by the administration of cinchona, or its preparations, of the various tonics, and other means that produce a permanent excitement of the capillary and parenchymatous circulation, or their introduction into the organism by endermic medication, which is to be preferred whenever the stomach is in an irritated state. It is this operation of cinchona that renders it so effectual in all paroxysmal diseases, and which have led some to attribute to it a specific property of anti-periodicity.

Inflammatory irritation, or phlogosis, is located in this same structure, and is a modification of the capillary and parenchymatous circulation. The molecular movements constituting the organic or nutritive actions, are accelerated, or acquire an augmented activity. The vitality of the inflamed part is elevated—its irritability, its sensibility, its temperature are increased. The quantity of circulating or sanguine nutritive humour in the phlogosed part is more abundant than natural, but its accumulation is never sudden, as in congestion, it occurs more gradually, and may continue, if not too intense, for a considerable period without inducing the suspension of the organic actions, as in congestion. Being a modification of the nutritive or organic actions, it is always productive of some change in the structure or secretions of the organ or tissue in which it occurs.

The disturbances of the circulatory functions in inflammatory irritation, are of a different character from those observed in congestive irritation. From the increase of irritability and sensibility attending it, an inflamed organ becomes a centre of irradiation, whence is transmitted into the organs eminent in the sympathies, the same order of actions—the same mode of being or condition. The heart, from the intimacy of its connexions, so frequently partaking of this state, the inflammations of the viscera, and of most other local inflammations, are productive of an acceleration of the vascular circulation, and generally of increase of its force. In congestion, the vessels being emptied by the disorder of the capillary movements, and by the detention of the blood in the parenchymatous structure, the action of the heart is diminished, and the vascular circulation is enfeebled. Inflammatory irritation when active, is, consequently, seldom confined to a single viscus; a constant disposition exists for its propagation; and most usually, when excited in any viscus, it is transmitted to several others. This circumstance modifies the influence of phlogosis or inflammation over the circulatory movements. The participation of the heart in this state, quickens and enforces the vascular circulation; the coadunition of distinct organs in this condition, multiplies the points of affluxion, counterpoising each other, and preventing the excessive accumulation on one, as occurs in congestive irritation. Inflammatory irritation is thus diffusive in its character, is excitative and perturbing of the organic actions, is not attended, in its acute stage, with a disturbance of the equilibrium of the capillary and parenchymatous circulation, to the same extent, as prevails in congestion. Although the phenomena of congestion do not occur to the same extent, and as rapidly in inflammation, as in simple congestive irritation, it becomes ultimately established when the phlogosis continues in the acute form, and when it affects highly vascular organs or tissues, is productive of the same adverse states of the capillary and parenchymatous circulation in different regions of the organism.

In treating of the pulse, in the preceding Number of this Journal, the manner in which pathological states of the capillary and parenchymatous circulation modified the general vascular circulation was then described, and a repetition is here unnecessary.

Art. XII. *Remarks on the Climate and Diseases of Batavia, and on the Means of guarding against them.* By George S. Bettner, M. D. of North Carolina.

THE situation and climate of Batavia, are so well known, that very little is required to be said concerning them. Situated in the latitude of 6° south, Batavia is constantly exposed to the burning influence of an equatorial sun, and the heat would always be excessive, were it not moderated by being in the vicinity of mountains, which, in a clear atmosphere, may be distinctly seen at the distance of thirty or forty miles south of the city. The range of the thermometer is thought to be somewhat under 90°; and it is always warmer during the easterly, than during the westerly monsoon.

The harbour of Batavia being formed by a very deep bay, and encircled in front by a number of small islands, possesses many advantages for the security of the shipping. But the circumstances which contribute to the safety of the vessels, are far from being favourable to the health of their crews.

The islands in front of the harbour, (many of which are used only as cemeteries, and are filled with the bones of unfortunate foreigners,) obstruct in a great measure the free passage of the sea breeze, and together with the depth of the bay contribute to the stillness of the water in the roads, which sometimes appears thick and partly stagnant, imparting at the same time, an unpleasant and unwholesome odour. And when it is recollected that this atmosphere receives still further contributions from the canals of the city, and the surrounding marshes and jungles, it will not be considered a matter of surprise, that so many have sickened and died in this climate.

With regard to the canals in and about Batavia, the general impression is, that they furnish a striking instance of mistaken attachment, in a foreign country, to what we have been accustomed to in our own; and the Dutch have been charged with the folly of cutting their canals with as much freedom under the equator, as they would do in Holland.

Although in a medical point of view, it must be confessed, that the canals contribute materially to the humidity of the atmosphere, yet something must be said in their vindication. The inhabitants are universally in favour of them, and would rather multiply than diminish them. They furnish a free and expeditious means of transportation, and a means pleasant too, in a warm climate, compared with conveyances by means of horses. The canals are, moreover, far, from being stagnant. The Bitenzod river which supplies them, comes from the mountains with considerable velocity, and preserves the water constantly in motion. But the greatest utility of the canals, is derived from their furnishing an abundance of water for the purpose of bathing, whilst many which are not applied to this use, and some too that are, yield an ample supply of excellent water for drinking.

The country around Batavia, along the sea-coast, presents a considerable resemblance to the low land which is seen in approaching our own coast, especially that of the southern states. On each side of the large canal, which receives the smaller ones, and discharges itself into the harbour, are extensive marshes and jungles, presenting much the appearance of the marshes, which are seen more particularly at the embouchures of the rivers in the southern states.

This flat and level condition of the country, does not continue very far; at the distance even of eight or ten miles from Batavia, the land begins to present an undulating surface, and still further, it is diversified with hills and valleys, and at the distance of thirty miles south of Batavia, you approach the mountains and high land which extends through the island, from the noble bluff called Java Head. The influence of the mountain air, over the close and sultry atmosphere of Batavia is very obvious, and it is on this account, that, notwithstanding the heat of the day, the nights are always pleasant and refreshing at Weltervreden, Rysmik, and Panaabang, where the Europeans reside, at the distance of four or five miles from Batavia. The nights, although pleasant and refreshing at those places, are generally sultry and oppressive in Batavia, and in the roads; and this circumstance is unfavourable to those who have to pass their nights on shipboard.

As respects the city of Batavia itself, no European thinks of spending the night there.

These prefatory remarks would seem to be altogether inexcusable with regard to any place less celebrated than Batavia, but in conjunction with others subsequently to be made, they will perhaps be considered admissible, especially with those whose business may lead them to Batavia, and who would wish previously to be possessed of information with regard to its situation, and to be able to estimate in some measure the danger to which their health must be exposed.

The ship Mary, of Philadelphia, to which I was attached as physician, anchored in the roads of Batavia, October 8th, 1828.

It will be seen by the readers of Dr. Johnson's work on Tropical

Climates, that the British squadron, in the year 1800, amongst which there was such great mortality, arrived at Batavia on the 21st day of this same month. The knowledge of this fact was calculated to excite in us some concern, and led us to prepare our minds for the appearance of sickness. Although Batavia, from its situation, cannot be said to have any season that is healthy, yet the changing months, as they are called, that is, October and April, are regarded as the most sickly. From October to April is the rainy season, in which prevails the westerly monsoon. This season is the most dreaded by foreigners, and is perhaps more pernicious to them, particularly seamen, in consequence of their exposure to the alternations of the rain and sun.

But the inhabitants generally suppose the dry season of the easterly monsoon the most dangerous, and think that the excessive heat of the sun, sometimes unabated scarcely by a shower for weeks together, is favourable to the production of fevers.

If, however, there be any difference, the latter, or dry season, is perhaps more frequently called the healthy, and the other the unhealthy season. The first day we anchored at Batavia, a case of fever, but not considered violent, presented itself in the person of the first mate of the ship. His case is as follows.

D. Coupland, first mate, has been complaining for the last two days whilst coming up the straits of Sunda.

Symptoms to-day, *October* 8*th*. Nausea; epigastrium tender; pain in forehead across the eyes; pulse quick, and somewhat hard; throat sore; bitter taste in mouth; bowels constipated for the last three days; skin dry; tongue furred, yellow in the middle, but clean on the edges; spirits dejected. Ordered, ℞. Hydrar. submur. gr. xii. in pillulis; oil two hours after; chicken water in the afternoon.

9*th*. Medicine operated well; has very little pain in the head; tongue nearly the same; feels heavy; rested tolerably well during the night; no bitter taste in mouth; throat not so sore; bowels open. Is directed to-day merely to attend to his diet, and to avoid the sun.

10*th*. No pain in head; bowels open; skin still dry; tongue more natural, but still furred. Ordered, ℞. Colomel, gr. ss.; pulv. opii., gr. ss.; M. ft. pill. una q. b. h.

11*th*. Tongue looks well, almost entirely clean; urine high-coloured, and scalding; bowels open; stools greenish colour; no appetite; feels occasionally fainting spells; complains of debility and thirst; head free of pain. Continues to take the pills, and to attend to his diet.

12th. Feels weak; skin a little moist for the first time. Pills continued. Has no appetite; bowels regular; mouth a little sore. Evening. Gentle perspiration over his body; gums tender. Pills continued yet.

This man became convalescent, and was nearly restored, when a relapse was occasioned by neglect of diet, and his imprudence in eating fruit, which brought on a violent colic. This was relieved by the usual remedies, and his treatment was conducted as before. He got entirely well.

This case was not considered dangerous from the symptoms, and from the circumstance of its having occurred so soon. The pain across the eyes was not so acute as in some of the cases which occurred subsequently, nor was the tenderness of the epigastrium so great. On this account no depletion whatever was thought necessary. The dose of calomel was intended to obviate the constipation, and the pills were afterwards employed with a view to act upon the capillary circulation, the skin being very dry and torpid, and the patient being in the habit of perspiring a great deal. These ends were fully answered.

It may perhaps be worth mentioning, that this first case occurred in a man who was then for the seventh time at Batavia, and having been sick there before, he had vainly made a boast of his security against the effects of the climate.

The next cases which occurred were affections of the bowels.

October 26th. I was called to a seaman named Gates, who, whilst working in the hold, suddenly fainted and fell. He was soon restored to his senses, when he stated that the night previous and during the day, he had been the subject of an active diarrhœa. It was plain therefore that his having fainted was from working in a warm place in his debilitated condition. On examination of his symptoms he had no pain in his head, or at the epigastrium, and his tongue appeared almost natural. This man was put on diet, and was ordered a few powders of prepared chalk and opium, and was able to resume his work on the third day from his attack. This was the only case which came under my notice where astringents were employed or even thought admissible. When the epigastrium and the bowels manifest tenderness, and the tongue is much furred, or is red, astringents will always be pernicious.

Thousands of seamen at Batavia have wrought their own destruction, by unadvisedly using for diarrhœa and dysentery, strong decoctions of the rind of the mangustine and the pompomoose or pomelo, which are the most powerful of all astringents.

Equally pernicious was the plan of Dr. Bancroft and others some years ago, which consisted in giving copious quantities of the Peruvian bark to cure inflammation of the viscera, and these quantities often increased in proportion to the oppressed and languishing condition of the patient. Whilst at Batavia, I was informed of one American ship there several years ago, on board of which this plan was adopted, with the loss of every man who was taken sick, and this number by no means small. Victim after victim was sacrificed, whilst reason and conscience remained undisturbed in their repose under the authority of a name.

Besides the facts in Dr. Johnson's able work detailed against the error of this practice, the accumulated proofs of additional experience will constantly be recorded against it.

The next case which occurred was one of dysentery, in a seaman by the name of Sears. This, as did also all the other cases which I saw of this complaint, commenced in the form of diarrhœa; and it is only when it is neglected, or when it continues for some time, that it assumes the shape of dysentery. Those who are familiar with the appearances post mortem of such as die of dysentery, must recollect that the small as well as the large intestines are implicated in the disease, and that the effects of inflammation and often of ulceration, are visible along the whole alimentary canal. But besides this, the connexion of the dysentery in the East Indies, with the functions of the liver, must never be kept out of view.

This man was treated with small doses of calomel and opium, often repeated, and was restricted to diet. After salivation he became convalescent, but relapsed in consequence of deviation from his diet, and perhaps from the salivation not having been continued sufficiently long.

In speaking of dysentery, Dr. Johnson gives a useful caution, which ought to be kept in mind; which is, that the salivation ought never to be checked too soon. Should it however be carried so far, that ulcers appear on the tongue and mouth, it will be necessary to attend to them, and nothing I found so useful as a solution of the sulphate of copper. Having relapsed, this man had the same treatment repeated, and by his stubbornness and imprudence he continued to tamper with himself until even a fourth relapse. He remained on the sick list for six weeks after we left Batavia, became much emaciated, and was at last only cured by the use of calomel and opium, and an absolute restriction to cungee water and rice for weeks.

No depletion was used in this case; cupping would have been useful on his first attack, but circumstances prevented its being employed.

Soon after the attack of this man, a case of pleurisy presented itself in the person of the carpenter of the ship, who in America had suffered from that disease two or three times.

I did not expect to see that disease at Batavia, where exposure to cold more frequently affects the bowels. I however saw one case of it afterwards at Panaabang, a short distance from Batavia. The practitioners there, who are averse to the use of venesection, treat this disease by leeching, together with liniments or vesication. The carpenter of the ship was bled, and with benefit, for he soon recovered. Although I should not hesitate to use venesection for pleurisy, yet, for reasons afterwards to be stated, I should prefer the use of local depletion in the cases of fever.

We had now been at Batavia about thirty days, and no case of fever had appeared since that of the first mate. Very soon, however, the cook and steward, both blacks, were attacked, and the latter with considerable violence. His eyes appeared turgid and injected; very acute pain across the frontal bones, and peculiarly distressing pain in the epigastric region, attended with prostration of strength, and incessant retching and vomiting. The other case was not so severe. These were the only two cases which occurred whilst we were in the roads of Batavia, and they both recovered. As these two cases so nearly resembled two others which occurred in the Straits of Sunda, after leaving Batavia, as well in the symptoms as in the treatment, it will be sufficient to give some account of the two last, in which the whole will be comprised.

We left Batavia, November 17th, at which time the westerly monsoon had set in, with strong winds and heavy rain. At this season it is always difficult to clear the straits, and weeks are consumed in sailing the distance for which a few days only would be sufficient. The fatigue which a ship's crew have to encounter under such circumstances, labouring under the relaxation and debility produced by their stay in Batavia, is almost sure to occasion sickness. Accordingly, whilst in the straits, the carpenter, (who had now recovered from his pleurisy,) and one of the seamen, were both attacked with fever under similar circumstances, and on the same day. The case of the seaman is as follows.

Peter ——, age about thirty-five, stout and plethoric. Taken sick early in the morning of November 24th; was seized with a severe chill.

Symptoms at 9 o'clock. Severe pain of forehead across the eyes;

pain at stomach and back; vomiting; pulse active, quick, frequent, and strong; bowels were not bound, but had been open on the night of his attack; tongue furred, white, and frothy; face and eyes turgid; vision quite dim; debility very great.

Treatment.—I immediately cupped him freely on the head and on the epigastric and iliac regions; and then administered, ℞. Calomel, gr. xx.; pulv. opii, gr. ss. M. ft. pulv. This did not remain long on his stomach, and was shortly afterwards repeated in the form of bolus; this was likewise rejected. 12 o'clock. Has thrown considerable quantities of greenish-coloured fluid off his stomach; skin hot and dry; frequent slight chills; alternations of heat and cold; says his sensations are very uncomfortable, and he betrays much anxiety of countenance. Ordered now, ℞ Pulv. sodaic. una p. r. n.; cooling applications to his stomach when he experiences no chilly sensations, and to take, ℞. Calomel, gr. i.; pulv. opii, gr. ¼. M. ft. pill. una circa q. b. h. After taking one or two powders, stomach became more composed; a dose of calomel was then given. Night. Bowels well opened early in the evening, and stomach is now entirely quiet. His drink now and during the day, gum water made quite thick. The same drink ordered during the night, and ℞. Calomel, ʒi.; pulv. opii, gr. xv. M. ft. pill. lx. una q. b. h.

25th. Feels better; no pain or sickness at stomach; bowels well opened during the night; has still some pain in the head, for which he is ordered again to be cupped. Pills continued, and nothing allowed but gum water. Evening. Better; no pain; free of fever; tongue clean on the edges, slightly furred in the middle.

26th. Improving; on diet; takes the pills yet; still free of pain and fever; pulse and skin natural.

27th. Diet.

This man continued to improve, and he, as well as the carpenter, entirely recovered. In the case of the seaman, the mercury was not extended to salivation; in that of the carpenter it was. Salivation I should not consider so indispensably necessary in the fevers as in the dysentery. The condition of the skin, however, is the safest guide; and when the capillary action of the surface is fully restored and established, and the other symptoms furnish a corresponding degree of improvement, there cannot be any use in the continuance of the mercury. As the salivation is, however, easily controlled, it will sometimes prove of service by restraining the patient from the use of forbidden and injurious articles of diet. With a pulse, such as described in the case above, the question might be asked, if venesection would not be admissible? In such cases Dr. Johnson has given the weight of his authority in favour of it, but I felt disposed to place my dependance in local depletion, from the advantage of attacking the disease in the very places where it was seated, and from the consideration of the warmth of the climate, the effects of which are much increased on board of our merchant ships, where the accommodations for the sick are for the most part very imperfect.

It should be borne in mind, that the local depletion, whether by cups or leeches, should be effectually performed; and this measure may be pursued with more firmness in consequence of venesection not being employed. Should the symptoms not give way, the cupping or leeching must be repeated.

I have reason to believe that this is the surest method of preventing those unpleasant symptoms which speedily occur in this fever, such as violent delirium, with an alteration of the pulse, and that description of tongue which is seen in the malignant typhoid fevers.

I have mentioned before, that the dysentery of Batavia, so far as I had an opportunity of noticing, commenced in the form of diarrhœa. A case which occurred of this complaint has not been mentioned.

Henry Maines, seaman, whilst at Batavia, was attacked with diarrhœa, and although he would not declare himself sick, it was evident, from his altered appearance, that he was the subject of some disease. He resisted the friendly admonition to submit to medical treatment, and continued the prey of his disease for six weeks after we left Batavia, until at last, in the performance of his duty, he fell on the deck, declaring his inability to work. In this hopeless condition, his symptoms were those of a violent dysentery, with frequent and painful tormina and tenesmus, the dejections being very small, and consisting of blood and mucus; debility and emaciation great; tongue red; and the skin dry and torpid.

The weakened state of this man would not allow of any depletion. A scruple dose of calomel was given him in the morning, and repeated at noon and at night, without producing any inconvenience, and his bowels were opened the next day with comparative ease. The calomel could not be assisted with oil, in consequence of the weakness of his stomach, and his aversion to that medicine. Pills of calomel were afterwards given, and continued until salivation made its appearance on the third day. At the same time he was directed to apply the following liniment freely to epigastrium and abdomen. ℞. Ung. hydrarg. mit., ʒij.; spt. nit. dul., ℥i.; tr. opii, ʒi.; ol. olivar, ℥ij.; lin. sapon. camph., ℥ij.; M. This man after the salivation felt evidently better; the tormina abated; the stools became at first of a greenish colour mixed with mucus, afterwards they were dark and fœtid, and at last entirely natural. His diet was mucilaginous, and his cure was promoted by his wearing flannel next to his skin.

An outline has now been presented of the principal cases of sickness which occurred on board the Mary. It will be seen that the treatment pursued, was prompt, and when occasion required, active, and that in all the cases it was successful. As regards the fever of Batavia, the testimony of every one's experience is in favour of the adoption of such a course, and the success of the practitioner, will depend considerably upon the opportunity he has of applying his remedial measures at once. The pathology of the fever, and of the dysentery, are now thoroughly understoood, and the safest plan seems to be, to encounter them with vigour in those parts of the system which they are known to assail. As this is the principal object to be kept in view, all the auxiliary measures which will contribute to its success, will of course be adopted.

It is generally believed that sickness does not attack strangers so soon in the East, as in the West Indies, and that the danger to which health is exposed, is in proportion to the stay in those climates. This fact seems to be well established in regard to Calcutta, Ceylon, and some other places. But in Batavia very little dependance is placed on such a probable immunity, and strangers from their first arrival, generally place themselves on their guard against the attack of sickness.

To be actuated whilst there by great apprehensions of the climate, would be very imprudent; but some persons have been known in consequence of this, to take small portions of calomel every day whilst there, a practice of which Dr. Johnson speaks in his work. It is a favourable circumstance to those who go to Batavia, that they are in some measure prepared for the climate by sailing so much within the tropics in performing the voyage.

The city of Batavia is not, and never can be healthy; and a stranger should only remain in it, during those hours of the day, when it is considered safe. By residing at Weltervreden, or Ryswick, in the country, there will be but little exposure to sickness. If on board the ship, or between the ship and the shore, the danger will be greater, as it is not so healthy in the roads, and there must be exposure in passing from the ship to the landing place, through the harbour and a long canal.

The best time for landing is about 11 o'clock, after the sea breeze sets in.

In the morning, the city of Batavia is generally enveloped in a fog, and might be said not to be prepared to receive visiters early in the day.

As respects a restriction to diet, it will be found difficult to pursue any measure of this kind, with much uniformity. A reference to the customary mode of living in regard to the use of wine and food, should be made, and this with the exercise of moderation in all things, will generally be found sufficient.

Some captains, who by repeated voyages to Batavia, have acquired much experience of the climate, observe that the seamen on board the ship become much relaxed and debilitated, and more liable to sickness, by the entire use of fresh provisions; and think that the health of their crews is better preserved by giving them salt provisions, two or three times a week, or every other day.

This fact is of some importance, and seems to be founded in reason.

It would be very easy to show, that the sickness and mortality at Batavia, among strangers, are in proportion to the imprudence of their conduct, in neglecting the proper measures of temperance and of diet, and exposing themselves injudiciously to the effects of the climate.

On account of the heat at Batavia, no person, except the natives, thinks of walking any great distance, and it is the universal practice of the Europeans to ride. The heat of the day will not admit of much riding for the sake of recreation, and having passed the day, therefore, either in business or retirement, they sally forth in the refreshing air of the night, to perform their visits, or to search for amusement.

This riding at night, which strangers are tempted to do, is not safe or prudent. The dews of the night, as well as the heat of the sun, should both be avoided, for they are indeed "the pestilence which walketh in darkness, and the destruction which wasteth at noonday."

In a warm climate, like that of Batavia, the utility of bathing will suggest itself to the mind of every one, and a stranger there will be struck with the singular appearance of the Malays, male and female, old and young, who are constantly bathing in the canals from morning till night. A regard to comfort, as well as health, will induce every stranger to attend to this practice.

As a general rule, the European residents at Batavia sustain a much longer life than the native inhabitants, and this may be attributed to their possessing originally greater vigour of constitution, and from their having within reach those comforts and conveniences, which are the best defences against the climate, such as suitable dwellings, the proper kind of apparel, and the advantage of riding instead of walking.

The Malays and Javanese, on the contrary, have miserable shelters, and except their breech cloth, go entirely naked, and instead of clothes, dress their bodies over with coco-nut oil.

Their diet is remarkably meagre and abstemious, and with the exception of those who are employed as servants in the European houses, they eat no animal food, living entirely upon rice, with fruits and vegetables. Most of the Europeans act upon the other extreme, using the most stimulating viands, high-seasoned curries, and beer, gin, and wine in abundance. "In medio tutissimus." A circumstance not sufficiently attended to by strangers at Batavia, is eating whilst they are heated, a practice which is very injurious. The least exertion is fatiguing and oppressive, and the residents there, previously to dinner, which is their principal meal, and taken after the business of the day is over, are in the habit of resting themselves, dressing and becoming cool, and refreshed before they sit at the table.

An attention to apparel is as useful as that of diet, and the use of cotton shirts and banyans will be found the most suitable and the most pleasant. No one there thinks of wearing linen.

With respect to a person who acts in the capacity of physician on board of a ship, his concern for the health of the crew, will be as great as his anxiety with regard to himself. Much good may be accomplished by him in exercising some inspection over the sailors, who are the most reckless and thoughtless of all beings; and enjoining upon them measures of prudence, in order to avoid sickness; and in case of disease, considerable difficulty will be experienced, and much vigilance required in restraining them to a proper diet.

In warm climates, like that of Batavia, the treatment of ulcers, should they occur, has always been found difficult and troublesome. The same remark is applicable to the treatment of syphilitic affections, and there is perhaps no part of the world where such ravages are committed by the venereal disease as at Batavia. The habits of the people are voluptuous and sensual, and the heat of the climate, which inflames their passions, augments the mischief which the indulgence often entails upon them.

Animals there seem to be equally as much affected as men by this disease, and I have often seen sheep, dogs, as well as horses, (which are never castrated there,) with all the symptoms and suffering of confirmed syphilis. The disease must be brought upon them, by their inability to attend to habits of cleanliness, to which every body in that country is extremely attentive. The Malays and Javanese have an additional security in the practice of circumcision, to which they all conform, a practice enjoined upon them by their religious faith, and established originally, without doubt, for salutary purposes; and it is curious to see how it is sanctioned by, and interwoven with, nearly all the religions of the east.

Art. XIII. *Case of Perforation of the Stomach by Ulceration.* By Dr. Levi Rawson, of Grafton, Mass.

RICHARD GIBBS, an Englishman, a dyer by trade, aged thirty-six years, came to this country in 1823; had enjoyed uninterrupted health till about a year since; was of a hale, robust constitution; temperate in the use of ardent spirits, but rather a large eater; had been a hard labouring man, and lived well.

January 1st, 1830, first called on me for advice; said he had not been so well as usual for several months past; had been troubled with nausea and pain in the left hypochondrium; frequently vomited his food, which was apt to distress him; complained of coldness of his extremities; pain in his right shoulder, and the right side of his neck, face, and head; his bowels were costive and flatulent; stools dark-coloured; appetite fastidious; countenance pallid; pulse small and weak; system generally debilitated. I gave him ten grains of ipecacuanha and twenty of calomel, and ordered spare diet. Next day I saw him, medicine had operated well, and he felt much relieved. As he complained of some pain in his stomach and bowels, I ordered him ten grains of Dover's powder night and morning, a continuance of light diet, and a rhubarb pill every night on going to bed. In a few days he resumed his work, but either from irregularity of diet, or from taking cold, he was frequently during the winter, for a few days at a time, unable to work. He kept along in this way, working a few days, then being sick a few, till about the middle of February, when he was prevailed on to leave off labouring entirely, till he had obtained his usual health and strength. By the use occasionally of a few grains of ipecacuanha, a laxative pill, and small doses of Dover's powder, he had to all appearance, by the first of April, regained his former health, and he again commenced his labour—every symptom of disease had left him, except an unusual coldness of his feet and calf of his legs—he would frequently complain of the coldness of them as being almost insufferable when they felt to me extremely warm.

14th of May I saw him; said he had taken cold the day before; felt sick at stomach; fæces dark-coloured; bowels flatulent; wished for a little ipecacuanha to take at night. The next day he felt better.

May 22d, 5 o'clock, A. M. I was sent for in haste to see him; was told he was in a fit. This morning he went to his work as well as usual; while he was raking a vat he was taken with a severe pain in the epigastrium and right hypochondrium, which soon extended to the pubic region. He fell beside the vat, but in a few minutes he recovered, so as to be able to walk to the store, a distance of ten rods. He called for some brandy, and drank about two-thirds of a glass. Almost as soon as the brandy was down he fell upon his face on the floor in violent pain, and said he could not live long unless he got easier. In this situation I found him; countenance pallid and indicative of great distress; pulse small and weak; universally cold; abdomen very tender, rigid, hard, and drawn in; short breath; nausea; great pain all over the abdomen, but greatest in the pubic region; pain in his right shoulder; spasms of the muscles of the right side of his neck and face. He said if the pain came back to his stomach it would kill him; put him in great pain to be moved; could not be turned towards his right side. I gave him three ounces of castor oil and some warm drinks; had him carried to his dwelling-house, distant twenty rods, put into warm blankets, and hot bricks applied to his feet and legs. Vomited some of his drinks and oil. Gave him two grains of opium and twenty of calomel; ordered stimulating enemata; four were given without bringing any thing away; put him into a warm bath; staid in twenty-five minutes; easier while in, but complained of great weight in the pubic region. Nothing passed his bowels. Put him into warm dry blankets again; bled him sixteen ounces; blood sizy. Ordered woollen cloths rung out in hot water to his bowels, and repeated the injections. 12 o'clock, M. Nothing had passed his bowels; the injections came away without bringing any thing with them; every symptom aggravated; easiest in an erect posture. From a review of the symptoms, the operation of the medicine, as well as the violence and obstinacy of the case, I now was convinced there must be a rupture either of the stomach or bowels. I told his friends and the bystanders my views of his case, and informed them, that, if I were right in my diagnosis, his case was inevitably fatal. They wished me to persevere, saying it might not be so bad as I apprehended, and if it were he could but die. I shall not give the treatment any further, suffice it to say, that I considered if he ever were or could be relieved, it must be by procuring a free passage through the primæ viæ; to this end were all the means usual directed; I had recourse to all the means usually tried in violent cases of colic. About 4 o'clock, P. M. some of the injections came away with fæces and considerable wind, which gave him a little ease for a few minutes. He slept a little in an erect posture, but he soon grew worse, vomited some of his drinks, extremities became cold, pulse fluttered, strength failed, and he expired at 8 o'clock, A. M. on the 23d of May, twenty-seven hours from the time he was taken.

I examined him twenty-six hours after death, assisted by Dr. TENNEY, of Sutton, and Mr. VUILE, a medical student. Abdomen a little distended, tense, and the hypogastric region discoloured. On opening the abdomen we found the contents of the stomach in this cavity, surrounding the abdominal viscera; the bowels were considerably distended with wind and the injections: there was a general inflammation of the peritoneum, bowels, and every other part with which the contents of the stomach had come in contact, but the inflammation was greatest in the hypogastric region. On examining the stomach, about midway between the cardia and pylorus, on the anterior surface, near the edge of the lesser circle, we found a perfectly round hole, seven-eighths of an inch in diameter, resembling a hole bored with a tapering auger from within outward; its surface was of a dark colour. The parietes of the stomach, about fifteen lines round the perforation, was considerably thickened and hardened; the mucous membrane appeared healthy up to the edge of the perforation; there was an adventitious membrane by which, (as it appeared,) the stomach had adhered to the under surface of the lesser lobe of the liver, and to which in part we found it adhering—the adhesion was not very firm. Having preserved the stomach, I have not cut into its thickened part; wishing to keep it entire. On the under side of the stomach, opposite to the former, there was a commencing perforation of the same size as the other, and perfectly resembling it—it had partially penetrated through the coats of the stomach. The parietes of the stomach round the latter were not so much thickened as round the other; and the peritoneal coat about an inch round it, was inflamed.

The perforation of this stomach must have been caused by ulceration, which commenced in the mucous membrane, and must have been of several months standing; but the adhesion of the stomach to the liver, which probably took place previous to the perforation, prevented its contents escaping so long as it remained entirely adherent. The edge of the kettle over which he was leaning while raking the vat when he was taken, came against the stomach, and ruptured the adhesion, and the stomach being pressed, some of its contents immediately escaped into the cavity of the abdomen.

Grafton, Mass. June 1st, 1830.

REVIEWS.

Art. XIV. *Memoir on the Treatment of Venereal Diseases without Mercury, employed at the Military Hospital of the Val-de-Grace.* Translated from the French of H. M. J. Desruelles, M. D. &c. &c. *To which is added, Observations on the Treatment of the Venereal Disease without Mercury.* By G. J. Guthrie, Esq. Deputy Inspector of Hospitals, Lecturer on Surgery, &c. *And Various Documents showing the Results of this Mode of Treatment in Great Britain, France, Germany, and America.* Philadelphia, Carey & Lea, 1830, pp. 217, 8vo.

Observations on the Pathology of Venereal Affections. By Benjamin Travers, F. R. S. and Senior Surgeon to St. Thomas's Hospital. London, 1830, pp. 75, 8vo.

THERE is no class of diseases to which a deeper interest is attached, or more attention has been devoted, than to the affections engendered by the promiscuous intercourse of the sexes; and to this distinction they are fully entitled, by their frequency, their destructive ravages, the obscurity in which their history is involved, and the diversity of sentiment entertained respecting their phenomena and mode of treatment.

The most discordant hypotheses have been advanced as to the origin of syphilis; by some writers it is considered as an entirely new disease—others give it an astrological origin—it has been ascribed to humidity of the air, in consequence of inundations of the Tiber, Rhine, and Po—to the intercourse of a common woman with a leprous knight—to the connexion of numerous soldiers with a woman affected by a malignant ulcer of the uterus—to the Spanish soldiers poisoning the wells, and bribing the Italian bakers to adulterate the bread with lime—to the use of wine tainted with the blood of leprous patients—to importation from America by Christopher Columbus, &c. These various opinions have been investigated with indefatigable labour and zeal in recent times, and though their falsity has been most satisfactorily established, the precise origin of the disease remains still to be determined.

If the opinion which is at present gaining ground, that it may be spontaneously generated, be correct, the existence of the disease from the earliest periods would seem highly probable, and many quotations might be adduced from ancient writings in sustentation of this belief. It is not our purpose here, however, to enter into the history of syphilis; those who feel any curiosity on the subject, we refer to the works of ASTRUC, SPRENGEL, HUBER, CABANIS, HANDSHUCH, BACOT, TITLEY, &c. We prefer appropriating the few pages we have to spare to the consideration of the phenomena and treatment of the disease.

In the interesting review of the work of M. RICHOND DES BRUS in the second and third numbers of this Journal, it having been shown, we think satisfactorily, that the belief, so long prevalent, of the existence of a specific venereal virus has no foundation in truth, we shall not here broach the subject, but confine ourselves to the consideration of the manner in which the disease may be spontaneously generated—the identity of the gonorrhœal and syphilitic virus, and the comparative merits of the mercurial and non-mercurial methods of treatment.

> "The spontaneous development, without previous contagion, of syphilitic symptoms," says M. Desruelles, "by the influence of certain exciting causes, the manner of contagion of venereal diseases, their characteristic symptoms, their termination and cure accomplished by antiphlogistics, plainly show that these diseases are the result of irritation; to deny this proposition would be to object to the most palpable evidence, and to disavow the most positive facts. Let us even consider this irritation as special, a point impossible to prove, let us imagine it in the lymphatic system, or in the capillary blood-vessels, and it is not the less true, that irritation is the fundamental characteristic of all venereal symptoms. Then, since these are the result of irritation, the theory of these diseases should in no way differ from the general theory of inflammatory affections. Whence it follows, that in order to form a correct idea of the contagion, of the appearance, progress, termination, and mode of curing these diseases, we must observe what occurs in the system, previous to, and during the inflammation of an organ; we must follow the progress of this inflammation, and become acquainted with all the circumstances favourable or opposed to the cure."

Let us then consider the healthy condition, and trace the progress of irritation in the parts which are the seat of primary venereal affections. The lining membrane of the male urethra and female vagina, in a healthy state, secrete a bland mucus—when these tissues become inflamed from any cause, their secretion is increased in quantity; if the irritation be kept up, this secretion becomes altered in quality—it assumes a puriform and sometimes an acrid character. A purulent discharge from these parts thus recurs, not unfrequently, independent of sexual intercourse, the habitual mucous secretion being readily converted into a puriform one by acrid injections or mechanical irritations.

> "The vaginal mucus of a maiden woman," says Mr. Travers, "may be converted from a transparent albumeno-aqueous fluid into one resembling pus in all its sensible qualities, by the supervention of inflammation, from whatever cause, upon the vaginal follicles and membranes."

We have seen this purulent secretion similar in all its sensible properties to the discharge in mild gonorrhœa, in infants a few weeks old, and in children under four years of age, where no suspicion of infection could be entertained.

Attempts to violate female children, frequently produce a copious purulent secretion from the vagina, and the suspicion of gonorrhœa being communicated, has been shown to be erroneous by a careful inspection of the offending party, who has been found free from disease.

It is well known, that a woman affected with the inflammatory leucorrhœa, so often attending advanced pregnancy, sometimes communicates a discharge to her husband, "the case being not so rare in reputable classes of society," observes Mr. Travers, "as to render the fact doubtful to experienced surgeons."

> "If then," he adds, "the product of inflammation, induced by chemical or mechanical stimuli, or undue determination of blood to the secreting surface, is capable of communicating the inflammatory irritation by contact; this simple origin of the disease is sufficient to show that the affection termed 'gonorrhœa,' is not necessarily to be referred to any specific quality of the matter. The various degrees of severity which it assumes, indicate only the stage and extent of the inflammation, which, wherever the natural susceptibility exists, is excited by the introduction of purulent matter."

That the inflammation is not regulated by the condition of the matter, but by the individual's susceptibility, is further shown by the fact, "that a mild clap sometimes communicates a virulent one, and vicê versâ, that a rank clap gives a mild one, and often none at all." Some persons are so remarkably susceptible of the disease as scarcely ever to be long free from it, others equally exposed, escape altogether, or having had it repeatedly, become insusceptible.

> "A woman," Mr. Travers observes, "is not unfrequently the medium or passive communicant of the disease, not being herself the subject of it; as when she cohabits at a short interval with a diseased and a sound party: and that a man often discovers gonorrhœa in a few hours after connexion with a clean woman, having some days before communicated with a stranger. A person so situated charges the last party, who is in fact innocent, and remains uninjured, with the mischief. These cases are not very uncommon. I have known a married man, who had an illicit intercourse, finding himself clapped, and well knowing the chastity of his wife, indignant at his mistress's infidelity; upon which the accused party, deeply hurt at the imputation, has demanded to undergo a professional scrutiny, and has thus cleared herself of the charge. So

far, as examination can be relied upon, it has established her soundness.* Now, the man having intercourse with his wife and his mistress, and with these alone, it follows, that he had become inflamed with the co-operation of his mistress upon the leucorrhœal secretion of his wife, whose sickliness had been his apology, '*in foro conscientiæ,*' for dividing his attentions; and further, that he had not communicated the disease to his mistress.

It thus seems clearly established, that the temperament and constitutional susceptibility of the receiver, have a marked influence on the event of infection or non-infection—that the local sensibility and local sympathy of individuals is very various—that a female may convey without participating the disease, and that the excitement of coition may evolve the disease, though the vagina, which seems to have been the fomes of contagion, is uninfected.

Though the violence of the inflammation, as we have just shown, usually depends upon the constitution of the person infected, rather than upon the condition of the matter, it must be admitted, that the latter also sometimes exerts an influence, but it can readily be shown that the most virulent secretion may be spontaneously generated.

Dr. Falck, in a treatise on the venereal disease, published many years ago, observes, it must be confessed in no very choice and delicate language—

> "I need not mention the many disagreeable consequences attending an uncleanly woman, and I believe few will contradict, that a common whore is generally so. All women are subject more or less to the fluor albus; but prostitutes most so. Now, need we wonder, that in the time when such a discharge is upon her, and copulated by a variety of men, some larger and some more tedious, or violent than others, that the vagina should become inflamed, the lacunæ strained, and the mucous oozing out from them, together with a pussy discharge of the fluor albus, become sharp and acrimonious; and is this not enough to generate a venereal virus?" He adds "it is a custom too frequent amongst honest tars, to go in parties to a prostitute, (particularly in places where there are but few of them,) to have a bit of fresh meat as they term it. Jack will next come to the doctor, and damn the whore's eyes and limbs, that she has given him the glim: but cant think as how Frank and Tom should escape, as they both boarded her before him. In like manner, when a siren is let loose among a parcel of good stomachs, either on board a man of war or in a camp; though she at first appears ever so dainty and clean a bit, she must soon prove a fire-ship. This has come under my observation frequently, and I am persuaded that surgeons who have had much practice in that disease,

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* "If it be said, that in such a case an imposition may have been practised, I reply, that the appearances of inflammation cannot escape an attentive observer, though the discharge be slight; and, secondly, that the circumstance of a morbid leucorrhœal discharge in the female being on every connexion a source of irritation to the male organ, is of frequent occurrence."

must, (if they will lay all prejudice and conjecture aside,) have met instances from whence they could not but draw conclusions of the same nature."

In a subsequent portion of his work he observes—

"I have advanced that promiscuous copulation generates the venereal disease; this I not only firmly believe to be true, but think I shall be capable to prove it so. Suppose a common whore catches a man with whom she drinks and lies; coition is probably repeated, and for the hire she receives is induced to exert herself; and perhaps, from a forced wantonness in the action thereof, she ejaculates, and exhausts all the pleasing sensations it may afford her. If she retired to rest after this in order to recruit, she might certainly repeat the practice; and whether it was with the same gallant, or any other, could not have any ill consequence as to an infection: but we will suppose, (as is frequently the case,) her lustful prey leaves her as soon as his appetite is satiated, and she immediately catches another, equally fresh and lustful as the former, with whom, for the sake of what she can get, she repeats the debaucherous exercises, though not without a disagreeableness to her sensation: by this time she will become sensibly sore, as the nymphæ, the carunculæ myrtiformes, and the rugæ within the vagina, are galled by the repeated frictions, but in particular the clitoris, which has been strained by this excess, from whence the ligamenta rotunda, and consequently the uterus has been set in a violent agitation, by which all the organs have been greatly stimulated and injured.

"If she stops here it might pass, particularly if she be not an abandoned veteran: but this is seldom the case if any thing further offers; for by this time we may venture to pronounce her intoxicated with liquor; and that, with the irritation from the excessive venery, begins to operate as a stimulus for more lasciviousness; probably she meets with a set of debauchees with whom she spends the remaining night in drinking, riot, and the grossest licentiousness.

"Behold now the next day this emaciated creature; universal fatigue, pain, and a guilty conscience, make her curse her very existence. But in particular, concerning our inquiries, the genital parts are swelled and inflamed; this soreness is not only in the pudendum, but is even within the uterus itself, from whence will flow a sharp, pussy, and stinking matter in abundance; this is not all; the bawd, under whose wings she is, 'will have no idle hussy in her house—these are but trifles; and that she'll like this sport better when she becomes more used to it,' &c. by which comfort, together with a glass of gin, she is encouraged for further engagements, and spirited up to emulation, not to be outdone by her sisters in iniquity.

"The reader, I apprehend, will ask, whether this woman is now infected with a venereal virus? I don't know, but this I will venture to affirm, that whoever copulates with her while she is thus situated, will find the effects of it, and lay a foundation for as good and substantial a pox as the best ever imported from the West Indies by Columbus."*

It will hardly be necessary to offer an apology for this long quotation from a writer whose work appears to be but little known, since it proves so satisfactorily not only that an acrid virus may be spontaneously generated, which, when coming in contact with a mucous membrane, will excite in it irritation and a puriform discharge, or when applied to a portion of the skin where the cuticle is abraded or very thin, may produce inflammation and ulceration—but also that this important fact was long ago known. The principal objection that has been urged against this view of the subject, is that the discharge in gonorrhœa and the ulcer in syphilis have peculiar characters. No one has yet, however, succeeded in pointing out the distinguishing characters of the gonorrhœal discharge, and the signs by which it was formerly so confidently asserted that the genuine syphilitic ulcer could be distinguished, have recently been indisputably shown to depend upon the structure of the part and other causes, and not upon any peculiarity in the agent producing it.

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* A Treatise on the Venereal Disease, &c. By N. D. Falck, M. D. London, 1774.

> "When we compare," says M. Desruelles, "venereal ulcers of the genitals with those proceeding from other causes than syphilis, it is impossible to distinguish the former from the latter by any remarkable appearance, especially when they have existed some time. I have seen ulcerations produced by burning tinder, cantharides, caustics, and even by a piece of lint left for some time between the glans and the prepuce, present at the expiration of eight or ten days every appearance of venereal ulcers. The similarity was so close, that several Parisian physicians to whom I showed them, took them for venereal ulcers, and we never should have been undeceived, had not the patients themselves confessed the deception they had practised on us."

In fact, if an ulcer be produced artificially in any of the erectile tissues, and it be powerfully irritated, its basis will become hard, its edges callous, the bottom will appear excavated and grayish, exhibiting in short all the characters of a true Hunterian chancre. We have seen within the last few months two cases of ulcer on the lips of females presenting all the appearances above described, and caused by applications of irritating and caustic articles and relaxing poultices to common chopped lip.

If it should be said that we have only proved that a gonorrhœal and not a syphilitic virus may be spontaneously generated, we answer, that the identity of these two diseases was long ago proved by the decisive experiments of John Hunter, and though it has been subsequently denied, it is solely on hypothetical grounds. If the morbid secretion from an inflamed vagina be applied to a mucous membrane, it produces, as we have already said, irritation, whence follows an increased, and if the irritation is continued, a morbid secretion—but if applied to a delicate non-secreting portion of the body, or where the skin is removed, inflammation is excited, which terminates, as severe inflammation frequently does in these parts, in ulceration. The less frequency of constitutional symptoms after gonorrhœa than subsequent to syphilis* is readily explained by the unfrequency of the absorption of the morbid secretion in the former.

> "Much of the difficulty," Mr. Travers observes, "of this subject, has arisen from the supposition that either gonorrhœa or sores, or both, are the product of a particular virus or poisoned matter, and that a gonorrhœa necessarily gives a gonorrhœa, and a sore, a sore. This is altogether erroneous. Inflammation is excited by the irritation of matter from the inflamed follicles of the sound surface as well as from the ulcerated surface, and the difference of its effects upon the party who receives it, depends exclusively upon absorption or non-absorption, *i. e*, the formation or absence of a sore, a circumstance often accidental.
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> "We know how delicate and superficial a læsion, and how minute a charge, are sufficient for the introduction of the variolous or vaccine matter. When therefore, by the continued tension and friction of an exquisitely delicate cuticle, the smallest abrasion or breach of continuity permits the absorption of matter, *i. e.* inoculation, a sore follows, the secretion of which may be absorbed.
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> "The proper gonorrhœa, or inflammatory secretion from the sound mucous lining of the urethra, while confined to it, is incapable of producing secondary symptoms in the individual; its bubo, if present, is sympathetic, so is the sore throat, or inflamed membrane of the eye, or nose, if one or all should follow; *i. e.* they have no character but that of simple and superficial membranous inflammation. As these unquestionably do sometimes follow, though in so slight a degree as to be scarcely noticeable, the circumstance can only be explained by attributing it to the same "*consensus partium*," which determines the selection of these parts for the specific appearances when the matter of secretion is absorbed, and acts as a morbid poison. But when the matter of gonorrhœa is absorbed by an excoriated surface, and this surface becomes an ulcer, the matter which it secretes is capable of producing, by its absorption into the system, secondary symptoms in the individual. The absence of secondary symptoms in pure gonorrhœa depends therefore, not upon any difference in the quality of the matter, but upon a law of the animal economy, *that the inflammatory secretions of the sound surface are not absorbed into the system.*"

In a subsequent portion of his work, he observes in relation to this subject—

> "The common notion prevails, that proper gonorrhœa, being a simple inflammatory secretion of the mucous membrane, and not acting as a poison upon the system, the lues or syphilis is altogether a distinct disease. Let us examine this opinion. I have said, that whilst on both sides the surfaces remain sound, no constitutional disease is discoverable. But before we decide that the matter secreted in gonorrhœa and in syphilis have no relation to each other, we must show that the gonorrhœal secretion being absorbed into the circulation,

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* We retain the two terms gonorrhœa and syphilis, but it must be understood that we merely understand by them two forms of the same disease.

as in the case of superficial sores, is incapable of producing constitutional, or as they are called secondary symptoms. Now I aver that such a connecting link between these diseases exists, and is palpable to observation. I have already described the symptoms arising from the absorption of the gonorrhœal matter, and it cannot I think be denied, that the resemblance is such to those of syphilis, as to establish their very intimate relation if not their identity. If a constitutional disease be traceable through the medium of gonorrhœal sores in a subject hitherto immaculate, the next step in the inquiry is to determine the operation of a constitution already tainted with the poison of gonorrhœa upon sores of this description. Are not the natural secretions of the bowels, the skin, and the kidney, influenced by the deranged state of the constitution? Are not the morbid discharges from simple wounds and ulcers, having their origin in casualties, also subject to vitiation from a similar influence? We know that the unhealthiness of the matter of ulcers and suppurating surfaces, of whatever description, is constantly and truly referred to a prevailing morbid state of the system. Thus, if a poisoned habit contracts a sore, though the sore may have been caused by an accidental læsion of the skin, it becomes at once contaminated, and secretes a virus possessing properties not observed to belong to the secretion of a fresh and healthy system: the property, for example, of exciting upon a new surface an inflamed vesicle or pustule, which is followed by an excavated ulcer, instead of a superficial, raised or level sore, and which runs into phagedenic ulceration, whether on the glans penis or the tonsil; of affecting parts of the system not within the ordinary range of the milder poison, as the iris and the periosteal membrane; of exhibiting cutaneous eruptions peculiar in colour, figure, &c., and differing somewhat in other respect, though that remains for future research to determine, from the class to which they respectively approximate.

"From this observation it would seem that the gonorrhœal and syphilitic poisons are the same in kind, and that the only difference between them consists in the degree of their intensity and the extent of their operation."

Again he observes—

"The false partition between gonorrhœa and other venereal affections owes its existence to the fact, that in gonorrhœa no breach of surface occurs, and therefore no sore is formed, and no absorption or morbid secretion ensues. It is therefore under such circumstances, as generally supposed and treated, a simple disease. But let the inflammation affect or extend to the non-secreting cutis of glans or prepuce; or let an accidental breach accompany the gonorrhœa, and ulceration follow, what then happens? absorption, the secretion of a matter of which the gonorrhœal is the prototype, and the possible, not to say probable, consequence of the corresponding constitutional signs."

Other authorities and arguments might be adduced to show the identity of the venereal and gonorrhœal virus; but our limits admonish us that it is time to conclude, and we must therefore enter at once upon the consideration of the best mode of treating these diseases.

So great a diversity of sentiment prevailing respecting the origin and phenomena of syphilis, unanimity is hardly to be expected as to the best mode of treatment. The most ancient method was that by antiphlogistics, which were recommended by SEB. BRANT and CORNELIUS GILIUS as early as 1496. Mercury was afterwards introduced as a remedy by BERENGARIUS CARPENSIS or JOHN DE VIGO, it does not appear determined which, and from that period until within a few years, it has been solely relied on for the cure, and the idea that it could be effected by any other remedy, was scouted at as monstrous and absurd. Dr. HENNEN, in his excellent "Principles of Military Surgery," says—

> "No man could have been more convinced than I was, five years ago, of the extravagance of supposing that this disease, (syphilis,) could, under any circumstances, be cured without mercury, (to which alone I had trusted in at least a thousand cases,) until conviction was forced upon me by repeated observation, confirmed by an attentive consideration of the testimonies of the best informed practical writers of past times, and the opinions, both oral and written, of those of the present, whose opportunities have been such as to entitle their opinions to any weight on a practical subject."

When Mr. FERGUSSON announced that the disease was cured in Portugal without mercury, it was immediately asserted that it must be owing to the complaint existing in that country in a milder form than in other parts of the world. The falsity of this assertion, however, was soon made manifest by the successful treatment of many cases of the disease in Great Britain and France without the use of a particle of the vaunted sole specific. It was then said that the cases thus cured were not genuine syphilis; and various writers, among whom Mr. ABERNETHY and Mr. CARMICHAEL stand conspicuous, attempted to distinguish several affections produced by impure coition, and to designate those which might be cured without mercury, and that which could be cured only by recourse to this remedy. The ulcer so well described by Mr. HUNTER as possessing specific qualities, and certain secondary symptoms supposed to result solely from this sore, were believed to be incurable without mercury, whilst the various other sores and secondary affections were admitted to be cured by other measures. But the characters of this peculiar ulcer, imagined to be the infallible diagnostic sign of genuine syphilis, has been since indisputably shown to result from the tissue in which it is seated, and not from any peculiarity in the nature of the cause by which it is produced. It has, moreover, been equally shown, that the Hunterian chancre may be cured without resorting to the use of mercury; and this last fact is now so well established, that those who believe in a specific venereal virus, and that mercury is its antidote, have been compelled to resort to the assumption that the disease has worn itself out, and now only exists in a spurious or very mild and easily curable form. Mr. Abernethy, in his "Lectures on the Theory and Practice of Surgery," just published, remarks—

> "As this disease, (syphilis,) has almost become extinct, or is so modified as to be unlike that which Mr. Hunter has described, and which I had an opportunity of observing in the earlier part of my life, I do not think myself warranted in laying before the public what I have been in the habit of saying to students on this subject in my surgical lectures."

Mr. Travers also says—

> "Judging from the records of history, there is much reason to believe that in the course of centuries the disease, (syphilis,) has been essentially altered in character."

It would be an interesting subject of investigation, but one in which we cannot indulge in this place, to inquire whether the disease be really milder than formerly, and if so, whether it be not owing to the abandonment of the mercurial, stimulating, and other irrational modes of treatment.

It is sufficient for our present purpose, to determine by authentic documents, the mode of treatment most effectual in the disease as it now exists. Previously to the present time, writers on the venereal disease published only the general results of their practice, and have not made known the proportion of cures and failures in the treatment they adopted. Ample scope was thus left to the operation of prejudice and misrepresentation, and it is impossible to ascertain the actual success of the older practitioners. To determine the best mode of treating a disease, it is necessary to compare collectively and individually the results of the various therapeutic methods—to exhibit numerically the different results—to describe with the most scrupulous exactness every symptom—to examine the influence of the treatment upon their appearance, termination, and mode of cure, &c. This has been done by many surgeons within the last ten or fifteen years, and the editor of Desruelles's Memoir has collected and placed in the appendix to that work, authentic documents relative to the treatment of nearly five-and-twenty thousand patients affected with the various forms of venereal disease, upwards of eleven thousand of whom, including a large number of cases of true Hunterian chancre, were treated with antiphlogistics, without the use of a particle of mercury, and with entire success. As the *possibility* of the cure without mercury cannot then be denied, in opposition to such a mass of evidence, we shall proceed at once to consider the *eligibility* of that plan of treatment.

To determine this point it is necessary to ascertain, 1st, by which mode of treatment the disease is most readily cured; 2d, which mode is most permanent; and 3d, and lastly, which is the least distressing, and does least injury to the constitution of the patient.

1st. *Duration of Treatment.*—In the official report of Sir James M'Grigor and Mr. W. Franklin, (see Appendix to the work at the head of this article,) it is stated that the average period required for the cure of primary symptoms without mercury, where buboes did not exist, was twenty-one days, and with mercury thirty-three days.

That the average period for the cure of primary symptoms with bubo was forty-five days when treated without mercury, and fifty days when treated with mercury.

That the average period of cure of secondary symptoms without mercury was from twenty-eight to forty-five days, and with mercury fifty days.

When it is recollected that these results are derived from the observation of nearly five thousand cases, they must be admitted to afford very fair means of comparison, and to possess a high degree of value.

M. Desruelles, from an experience in one thousand three hundred and twelve cases, state that the mean duration of treatment of primitive and secondary symptoms, without mercury, was thirty-two days, and with mercury, fifty days.

It appears from the report of M. Richond, who observed nearly three thousand patients, that of those treated without mercury for primitive symptoms, ninety-two per cent. were cured in thirty days, whilst of those treated with mercury, only twenty-eight per cent. were cured in that period: and that of those treated for buboes without mercury, sixty per cent. were cured in thirty days, whilst of those treated with mercury, only twenty-seven per cent. were well in that time.

Dr. Fricke, of Hamburg, states, that in his hospital, the average period of cure for primary and secondary affections, treated without mercury, was fifty days, whilst it was double that time in those treated with mercury.

It thus appears from the most authentic documents, founded on experience in a sufficient number of cases, and in different countries, that the cure is effected in a shorter period of time by the non-mercurial than by the mercurial practice.

2d. *Permanency of the Cure.*—In those treated *without mercury* by the surgeons of the British army, it is stated by Sir James M'Grigor, that secondary symptoms occurred in not quite five per cent.—Richond states them to have occurred in two and a half per cent.—Fricke had no case of secondary affection;—in Sweden secondary symptoms occurred in seven and a half and seven per cent;—in America they occurred in two per cent. making an average of four per cent.

In those treated *with mercury*, it appears from the report of Sir James M'Grigor, that secondary symptoms occurred in nearly two per cent.—in those treated by M. Richond they occurred in five and a half per cent.—of those cured in the Swedish hospitals, secondary symptoms occurred in fourteen and twenty-two per cent.—and in those treated by Dr. Harris, they occurred in upwards of ten per cent.; averaging nearly eleven per cent. If it be said that the cases treated by fumigations with cinnabar should not be taken into this account, the number of secondary cases would even then be eight per cent. or double of those occurring after the treatment without mercury.

Thus secondary symptoms are shown to occur more frequently after the cure of primary symptoms *with mercury*, than when cured by antiphlogistics.

3. It only remains for us to inquire which mode of treatment is least distressing, and does least injury to the constitution of the patient. That the antiphlogistic treatment is least unpleasant to the patient, we believe has never been questioned, and that it never produces any injurious effects on the constitution, must be admitted. Of nearly two thousand cases reported by Sir James M'Grigor, as cured without mercury, every man was fit for immediate duty on dismissal from the hospital; whilst of those treated *with mercury*, one man was discharged the service on account of the injury his constitution sustained from the remedy, and another, after treatment for secondary symptoms by mercury, in consequence of that complaint. But the terrible consequences sometimes resulting from a mercurial course, are too well known to require a description; the subjecting of a patient to this treatment has always been admitted to be an evil, and the only apology ever offered, is its being a necessary one. This apology having been shown to be no longer admissible, those who persist in the mercurial treatment, in opposition to as large and authentic a body of evidence as has ever been collected to determine any point of practice, must offer in extenuation something more positive than their own vague notions, idle fears, or a blind devotion to dogmas, founded on prejudice and miscalled experience.

The appendix by the editor of the work at the head of this article, in which will be found the documents upon which the above calculations are founded, are worthy of an attentive perusal.

Upon the particulars of the non-mercurial treatment of venereal diseases, we have not time to dwell; the reader may consult on this subject the excellent memoir of M. Desruelles, in which he will find minutely detailed the method to be pursued in all the various forms, and the principles upon which it is founded, ably illustrated.

The observations of Mr. Guthrie are also highly interesting, and contain many important facts, but the author had not when his paper was written entirely divested himself of his old prejudices.

Mr. Travers still maintains the existence of a specific venereal virus, and that mercury "is its specific remedy;" we leave it to him to reconcile the former of these opinions with his belief in the spontaneous origin of the disease—and the latter with facts adduced in the appendix to the memoir of M. Desruelles. In justice to Mr. Travers, we must, however, state, that he acknowledges that "the disease may be cured without the employment of mercury," "not that it so accords with my own experience," he says, "that I can confide in it as a rule of practice, or recommend the disuse of mercury as a model for imitation; far otherwise." He also has the candour to admit, that—

> "When we observe the tremendous havoc of this drug, (mercury,) upon the human frame, and consider the extent to which this gratuitous notion was carried, and the not less dangerous Boerhavian doctrine, "*in dubiis suspice lucem,*" it may well become a question, whether the remedy has not proved the greater evil."

Few persons are aware of the immensity of suffering, moral and physical, that an ignorance of the phenomena and treatment of venereal affections has inflicted. Independent of the permanent destruction of health from the excessive use of mercury, how often has suspicion been unjustly aroused between husband and wife, confidence destroyed, and both parties made wretched for life. Inflammation is sometimes excited in the vagina of newly-married females by excessive coition—the secretion thus rendered morbid, irritates the urethra of the husband, excites a discharge from the latter part, and instead of rest and cold applications being resorted to, which would completely remove the affection, coition is continued—irritating injections perhaps employed, the discharge increases, and the husband charges his wife with having been unfaithful. In vain she protests her innocence; the disease is said to be a specific one, and can be produced only by contagion.

Sometimes a man is affected with a discharge from his urethra, or ulcers on his penis, following connexion—these are healed, but he has vague fears that the disease still lurks in his constitution; he is perhaps engaged to be married, and dreads that he shall infect his wife—he subjects himself to a course of mercury, and injures his health. After his marriage, his fears still pursue him—he is constantly examining his penis for ulcers or a discharge; the irritation of coition or frequent handling of the part produces a slight abrasion, or he fancies it to exist—caustics are immediately applied to destroy the virus, and a sore is produced. If the husband be a man of honour, he immediately abstains from connexion with his wife; perhaps he fears that he has infected her, and in his anxiety lest he should have done so, and the disease arrive at a dangerous height before discovered, he makes a full confession—an examination takes place—a slight redness or abrasion is seen or imagined to exist in the vagina—caustics are applied—an unquestionable sore produced—both parties are put upon a mercurial course—if the wife be pregnant, the injurious effects of the mercury upon her constitution is seen upon the child when born, and attributed to the *virus*—what more could be required to convince the parties that they were diseased? Their misery may be easily conceived. These occurrences are not mere creations of the imagination—we could, if we were permitted, illustrate them by particular cases.

He, however, who would inculcate correct and rational views of the affections under consideration, must first remove a mass of error and prejudice, greater perhaps than involves any other class of diseases. We do not flatter ourselves that we shall be so fortunate as to do this, but if we shall succeed in attracting attention to the subject, we shall accomplish all that we proposed, and all that perhaps could be, at the present moment, reasonably expected.

We cannot conclude these cursory remarks without strongly recommending the memoir of M. Desruelles to the attention of the profession, as the only work in our language which presents an accurate account of the modern, we might say rational, opinions relative to the pathology and treatment of venereal diseases.

ART. XV. *Mémoire sur l'Emploi de l'Iode dans les Maladies Scrofuleuses, lu à l'Académie Royale des Sciences, dans la séance du 22 Juin*, 1829. Par J. G. A. LUGOL, Médecin de l'Hopital Saint-Louis; Précédé du Rapport fait à l'Académie. Par MM. SERRES, MAGENDIE et DUMERIL. Paris, 1829. pp. 78, 8vo.

*Mémoire sur l'Emploi des Iodurés dans les Maladies Scrofuleuses; suivi d'un Tableau pour servir a l'Administration des Bains Iodurés selon les ages.** Par J. G. A. LUGOL, Médecin de l'Hopital Saint-Louis. Paris, 1830. pp. 52, 8vo.

IODINE, as is well known, was introduced into the materia medica by M. COINDET, of Geneva, as a remedy, and almost a specific, against goitre. The very favourable reports of its success soon led to its extensive employment in various other diseases; and its remarkable discutient properties naturally suggested its application for the resolution of scrofulous tumours. The first, however, to use it in this disease to any extent, or with any method, was M. Lugol, one of the physicians to the Saint Louis Hospital, in which a large number of scrofulous subjects are collected. He charged himself with the task of ascertaining whether iodine might not afford in this class of diseases that relief which had been so hopelessly sought for from other medicines—and in the performance of this task he has evinced much ardour and assiduity. The success attending his first trials was such as to afford great encouragement. Unwilling, however, to place too much reliance upon these, he went on repeating and multiplying them, until he at length became fully convinced that the introduction of iodine into medicine was one of the greatest acquisitions made by the art of healing in modern times, since its use in scrofulous disorders always produces beneficial effects, and where it does not accomplish the complete removal of tuberculous and other affections, at least alleviates them, or arrests their progress.

The interest excited by the publication of the memoir first mentioned at the head of this article, caused iodine to be very extensively used, insomuch that in Paris its price not only rose, but the market was for some days actually exhausted. In this country, at least in Philadelphia, there is good reason to believe that scrofulous disorders constitute a far less proportion of disease than they do in Europe; they are, however, met with quite often enough to make us regard a sovereign medicine for them as a great desideratum. The consideration that iodine may be applied with advantage to other ailments of an intractable nature, also contributes to make the investigation of its medicinal properties a highly interesting subject. Several reports of these hitherto made are much at variance—some extolling the medicine as useful, and even as divine, others denouncing it as highly pernicious. This difference of opinion must, we think, be owing in a great measure to the various modes of administering or applying the substance, and we are disposed to believe that much of the success which M. Lugol appears to have derived from it, is attributable to the judicious manner in which it was employed by him. Iodine has been charged, especially in Germany, with producing tubercles in the lungs, hæmoptysis, and other serious accidents; but M. Lugol declares that so far from occasioning thoracic disorders, several of his patients affected with them experienced the general good effects of the remedy, even where there were the strongest indications of pulmonary tubercles. In one case of this kind, the cough was so violent as to cause the ejection of the medicine, so that its use had to be suspended for three weeks, during which time, however, the cough was even more severe than before. The iodated solution being resumed, was no longer rejected from the stomach, and after a while the cough subsided, and the cervical tubercles, for which the medicine had been particularly prescribed, disappeared. M. Lugol believes himself warranted in making the declaration, that the only danger of pulmonary or other accidents to be apprehended from the use of iodine, is in giving it to the extent of three grains a day as recommended by M. Coindet, a quantity which, in the course of his experience, has always proved exciting to a degree transcending the salutary effects produced by more moderate doses. Let us suppose that different persons should set about investigating the medicinal properties of corrosive sublimate, arsenic, or any other heroic medicine, would not, we ask, a very different report be given by those who used three times the proper portion, from those who confined themselves to doses judiciously adapted to the system? Now, iodine is an agent of the greatest activity, and if its dose be not nicely adjusted like those of the other medicines we have just named, its use may be fraught with unpleasant, and even most serious consequences. M. Lugol says, that so far from its having proved in any degree prejudicial to health in his hands, it has always tended powerfully to reanimate the organic functions, and improve the general condition of the system. His report of the effects of iodine differ in another respect from what others have represented, for, instead of confirming the observation that its use produces emaciation, he thinks, on the contrary, it rather tends to favour the growth and development of the body. The result of his experience is certainly calculated to diminish the hopes of those ladies who might be disposed to resort to it for the reduction of embonpoint.

The memoir laid before the Royal Academy of Sciences by M. Lugol, presents the results of seventeen months experience. According to the usages of this body, it was submitted to a committee of its members, consisting of Messrs. Serres, Magendie, and Duméril, by whom the patients were seen, examined, and interrogated. The report was confirmatory of the accuracy of the statements made in the memoir, a condensed view of which shows that of one hundred and nine patients treated in the time mentioned by M. Lugol, with iodine alone, thirty-nine remained under treatment, thirty had left the hospital with signs of amendment, and prospect of being cured, four had experienced amendment without any just expectation of an entire cure, and thirty-six were completely cured. Out of this number he has reported the details of only twelve cases.

The pharmaceutic preparations of iodine employed by M. Lugol, differ, as we have before observed, from those generally adopted by others, namely, the tincture of M. Coindet, and the syrup of Henry, Apothecary in Chief to the Civil Hospitals of Paris. His objections to these formulæ are, that having to be dealt out in drops and small doses to numerous patients, and repeated frequently through the day, they are unsuited to hospital practice, where convenience and precision are of so much consequence. Another, and we think still stronger reason, is derived from the particular nature of the remedy itself. Both the preparations being usually administered in a watery vehicle, the consequence must be, that the alcohol uniting with a liquid for which it possesses so strong an affinity, leaves the iodine to be precipitated in a pure state. Now, the medicine thus reaching the stomach in substance, like every other extremely active medicine in too great concentration, produces violent effects, somewhat analogous to those occasioned by its application to the external surface.

The preparation which M. Lugol prefers, is the solution in distilled water, observing always not to increase the quantity of this vehicle beyond what is required to procure perfect solution. The quantity of the vehicle he fixed upon was one pint, in which, he dissolved two-thirds of a grain, and a grain, so as to establish two degrees of the remedy, to be applied according to the states of the system or constitution of the patient. These degrees he called *iodated mineral water*, No. 1—No. 2. In every case he began by giving daily, half of No. 2, which of course contained only half a grain. After the lapse of a few days he commenced with No. 1, but seldom resorted to No. 2, before the second month of the treatment. To many of his scrofulous patients he never went so far as to give the whole of No. 2, and rarely on any occasion exceeded this quantity, that is to say, one grain in the twenty-four hours.

But notwithstanding the success attending the internal employment of iodine in the treatment of scrofulous diseases, there are frequently cases demanding its external application. The preparations destined by M. Lugol for this purpose are of two kind, namely, one a pomatum or ointment composed of fresh hog's lard, combined with simple iodine and the ioduret or hydriodate of potassium; the other, a solution of iodine in distilled water. The strength of each of these is so graduated as to present three degrees with the following proportions:—

Ioduretted Pomatum or Ointment.

	No. 1.	No. 2.	No. 3.
Fresh hog's lard - - - -	℔ij.	℔ij.	℔ij.
Ioduret or hydriodate of potassium	℥iv.	℥v.	℥vj.
Iodine - - - - - -	ʒiv.	℈xiv.	℈xvj.

Solution of Iodine for external Use.

	No. 1.	No. 2.	No. 3.
Iodine - - - - - -	gr. ij.	gr. iij.	gr. iv.
Distilled water - - - -	℔j.	℔j.	℔j.

To designate the exact quantity of these preparations to be used daily is impossible, since this must vary with each patient, according to the extent of the diseased surfaces, or the excitement produced. In his first experiments, M. Lugol directed the ulcers to be washed, and the tuberculous tumours rubbed twice a day; but he afterwards found that the local excitement produced by leaving so short an interval between the applications, was too great, so that he caused the ulcers to be washed but once a day, except in cases where an abundant suppuration called for two dressings, as is generally the case in fistulous ulcers, symptomatic of scrofulous caries of greater or less extent.

Upon ulcers and other diseased surfaces, the application of iodine produces sensations of pricking and burning, or smarting, together with a painful sense of itching. In a few days these feelings are generally followed by amendment, in proportion to the increase of which is the diminution of the sensations here described. Nor is this diminution to be regarded as a mere effect of habit, since he has had patients under treatment for a year, on whom the effects of the iodine were almost as active as at first, whilst they subsided and finally went off entirely when the cure was completed. The operation of iodine upon tuberculous tumours is variable, as it sometimes quickly discusses them, whilst at others it appears to drive them rapidly to suppuration.

On being rubbed with iodine, the skin acquires a reddish-yellow colour, from the absorption of the substance and its presence in the cutaneous tissue. The epidermis usually peels off in scales of greater or less size, so that the ointment comes in close contact with the dermis. This last effect is generally in proportion to its local action, for it sometimes happens that the epidermis does not desquamate.

Administered internally in moderate doses, the solution of iodine constantly increases the appetite, which is so commonly deficient in scrofulous subjects. This effect M. Lugol looks upon as one of the most precious attributes of the medicine, since he thinks it not only shows an improved condition of the digestive powers, but leads directly to an amendment in the general health. If all this be true, it is easy to imagine how very advantageous the medicine may prove, not only in cases depending on a scrofulous dyscracy, but upon other morbid conditions of the system.

In almost every case in which M. Lugol used iodine, it acted as a diuretic, and in some instances to such a degree, that the patients were obliged to rise, contrary to their usual habit, once, twice, and even three or four times through the night. This effect has even been known to ensue almost immediately after taking an iodated draught.

More than one-third of those who used this medicine experienced its purgative effects in a greater or less degree. In some it even produced six or seven stools a day, and under such circumstances there were generally symptoms of colic. M. Lugol cites three cases of hereditary scrofula, in which the purgative operation of the remedy was experienced in the highest degree, and where likewise the application of the ioduretted hydriodate of potass pomatum was strongly felt for two or three hours, which three cases were cured. These effects of the internal and external use of iodine, though they may have prevented M. Lugol from increasing the dose or the quantity rubbed in, never, however, induced him to give up its use for more than two or three days at a time.

In several patients a flow of saliva was produced by the medicine, an effect only observed among his male patients. The females more frequently suffered from pains in the stomach, to relieve which he gave two or three ounces of the vinous tincture of bark, shortly after the iodated mineral solution. This practice he acknowledges to have borrowed from M. Coindet, whose experience in the efficacy of bark in relieving the cardialgia sometimes produced in certain individuals by the internal use of iodine, he confirms. Having formerly administered to scrofulous patients the wine of bark, both alone and in combination with other medicines, without any success, he thinks himself warranted in believing that its occasional employment under the circumstances just mentioned, ought not to detract from the efficacy of iodine.

M. Lugol's second and more recent memoir relates to a new mode of applying iodine to the treatment of scrofulous diseases, namely, the use of ioduretted baths; a practice which he says originated with him, and which he thinks promises to enrich very greatly the domain of the materia medica. He believes them to be at least as efficacious for the removal of scrofulous disorders as the sulphurous baths or fumigations are for those of the skin, and observes, that inasmuch as the most celebrated practitioners do not restrict the sulphurous baths to cutaneous diseases alone, so the ioduretted baths should not necessarily be limited to the fulfilment of those indications only to which he has confined himself in the present report.

The effects of these are not, he says, to be estimated by a comparison with those of the iodated mineral water, or the solution of iodine as set forth in his first memoir. His preconceived opinion of the action of these baths, fell far short of the energy they exhibited on trial. This he attributes to several considerations, as, the extent of surface acted upon, the facility with which the iodine is brought in contact with and deposited on the skin, and the increased activity it acquires from being applied at the elevated temperature necessary for a bath. All these circumstances having been considered, he made his first trial with what he supposed would have proved a very weak proportion, but was surprised to find, that instead of increasing it, as he thought to have done, the bath was already stronger than could be used with propriety afterwards. In this first experiment, one ounce of the ioduret of potassium and half an ounce of iodine were dissolved in twenty ounces of distilled water, and added to a sufficient quantity of water for a bath. But these proportions produced so much redness of the skin, that he reduced the strength of the bath a fourth, making it for adults to contain six drachms of the ioduret of potassium and three drachms of the iodine. This forms the strongest bath he uses, the effects of which upon the skin in reddening and inflaming it, are often so violent as to render it insupportable and make its suspension necessary.

"Now," M. Lugol observes, "the bath producing these consequences, contained only three drachms or two hundred and sixteen grains of free iodine, to about two hundred and forty quarts or sixty gallons of water, that is to say, nine-tenths of a grain per quart; and yet I have been in the habit of administering internally, without any inconvenience, a grain of iodine per day in twelve ounces of water."

The eyes, nose, and lips, are to be bathed every day, and the fistulous canals or openings injected with a solution containing three, four, or five grains of iodine to the pint of distilled water.

He likewise uses as a rubefacient in certain cases of cutaneous, tuberculous, and cellular scrofula, an ioduretted solution composed of half an ounce of ioduret of potassium and two drachms of iodine, dissolved in eight ounces of distilled water. This solution may also be added in sufficient quantity to poultices applied to cases of hypertrophy or scrofulous caries. It serves too for bathing the feet and hands, when increased to the quantity requisite for these purposes, and it is also a useful application to certain surfaces which require to be excited, especially in cases of inflammation of the palpebra, ozena, ulceration, &c. But for touching so as to create a still deeper impression, and even to act as a means of cauterization, he resorts to a formula consisting of six drachms of iodine, and four of ioduret of potassium, dissolved in the smallest quantity of the vehicle possible.

But to return to the general baths. M. Lugol, according to his previous mode of graduation, has established three degrees of these. The first consists of the proportions first mentioned as too strong for general use. This he calls No. 3. The two inferior degrees are composed, No. 2, of five-sixths, and No. 1, of four-sixths of the proportions composing No. 3. He commonly begins with No. 2, which however is sometimes found too strong. He mentions the case of a girl aged seventeen years, who used the bath of this strength for two weeks, three times a week, from whom the epidermis of the legs and arms scaled off, and the yellow tinge given to the body did not disappear in the intervals between the applications. The temperature of the bath was commonly made 29 or 30 degrees of Reaumur, equivalent to about 98 and 100 degrees of Fahrenheit. The length of the operation must be regulated by its sensible effects. Some cannot support the application more than half an hour, whilst others can bear it much longer. The anterior portion of the breast, with the anterior and posterior parts of the arm, are liable to become irritated, sometimes in a very high degree. The baths may be repeated two, three, or four times a week.

according to circumstances. The tendency of iodine to form chemical combinations being very strong, the common tub made of wood answers better for this purpose than those of metal.

That our readers may possess all the most practical information imparted by our author, we present a translation of the table he has prepared, showing the quantities of iodine and ioduret of potassium contained in the ioduretted baths, as adapted to all ages and circumstances.

In the composition of the baths for children these substances are graduated into four degrees, thus—

	No. 1. Scruples.	No. 2. Scruples.	No. 3. Scruples.	No. 4. Scruples.
Iodine	2	2½	3	4
Ioduret of potassium	4	5	6	8

Children from four to seven years of age take half the quantities designated in Nos. 2 and 3, dissolved in thirty-six litres* or about nine and a half gallons of water in a bath tub about two feet in length. The exact proportions to each litre are, of

	No. 2. Grains.	No. 3. Grains.
Iodine	0.83	1
Ioduret of potassium	1.66	2

Those from seven to eleven years of age take the whole of Nos. 1, 2, and 3, dissolved in seventy-five litres, or nearly twenty gallons of water in a bath tub two feet and a half in length.

The precise proportions of the ingredients to each litre are, of

	No. 1. Grains.	No. 2. Grains.	No. 3. Grains.
Iodine	0.64	0.80	0.96
Ioduret of potassium	1.28	1.60	1.92

For children from eleven to fourteen years of age, Nos. 3 and 4 are dissolved in one hundred and twenty-five litres, or about thirty-three and a quarter gallons of water, in a bath tub three feet in length. The proportions of the substances in each litre are, of

	No. 3. Grains.	No. 4. Grains.
Iodine	0.58	0.77
Ioduret of potassium	1.16	1.54

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* A measure corresponding to two pints and one-eighth nearly of our measure.

The composition of the baths for adults has also four degrees, being divided as follows—

	No. 1. Drachms.	No. 2. Drachms.	No. 3. Drachms.	No. 4. Drachms.
Iodine	2	2½	3	3½
Ioduret of potassium	4	5	6	7

For young men and women, Nos. 1 and 2, are dissolved in two hundred litres, or about fifty-three gallons of water, in a bathing tub three feet and a half long. The proportion to each litre is, of

	No. 1. Grains.	No. 2. Grains.
Iodine	0.72	0.90
Ioduret of potassium	1.44	1.80

For adult men and women, Nos. 1, 2, and 3, are to be dissolved in two hundred and forty litres, or sixty-four gallons of water, in a bathing tub three feet nine inches long. Each litre would then contain, of

	No. 1. Grains.	No. 2. Grains.	No. 3. Grains.
Iodine	0.60	0.75	0.90
Ioduret of potassium	1.20	1.50	1.80

The proportions in a bath of four feet in length containing three hundred litres, or seventy-nine gallons, having the whole of Nos. 3 and 4, are, of

	No. 3. Grains.	No. 4. Grains.
Iodine	0.72	0.84
Ioduret of potassium	1.44	1.68

It is important to observe, that M. Lugol looks upon the ioduret of potassium, or hydriodate of potass, as solely acting the part of a neutral, serving only to increase the solubility of iodine, without concurring otherwise to promote the medicinal effect of the baths. That, in fact, the energetic action of these is almost exclusively owing to the quantity of iodine superadded. In proof of this position he states, that he has employed the ioduret of potassium alone, and increased its dose to three ounces; that he has also tried the pure iodine, in the proportions of three drachms to three drachms and a scruple to the bath; and finally, he has again examined the effects of the mixed solution of hydriodate of potassium and iodine, No. 3 and No. 2. His experiments and observations result in the following conclusions:—

1st. The ioduret of potassium produces scarcely any action, even in the proportion of three ounces to the bath.

2d. The free iodine must be regarded as the active principle of the ioduretted baths.

3d. The quantity of iodine ought generally to be from two to three drachms per bath, and very rarely more.

4th. The pure iodine is seldom entirely dissolved in a bath, from whence it arises that its action being unequal, may occasion violent local effects, but fail in its general operation upon the system.

5th. Iodine previously dissolved in alcohol, and afterwards mixed in a bath, does not remain in a state of solution, [illegible] besides produces effects upon the olfactory nerves, amounting to a species of intoxication, which may proceed so far as to occasion a distinct and permanent cerebral congestion.

6th. The surest mode of using iodine in a bath, is first to dissolve it in the hydriodate of potassium.

That it should be necessary for the complete division and solution of iodine to have it previously dissolved in the hydriodate of potassium, is unfortunate, since among other objections, it adds considerably to the expense of the baths, and thus opposes an obstacle to their extensive employment, at least in hospital practice. M. Lugol, however, mentions, that M. Henry, the younger, adjunct Apothecary in Chief to the Civil Hospitals of Paris, has proposed to remedy this last difficulty in some degree as regards hospitals. His plan is to receive the contents discharged from the baths in a common reservoir, and to precipitate the iodine by means of the acetate of lead.

As M. Lugol has conducted his experiments with iodine not only upon a larger scale, but also in a different, and we think, a much more rational manner than any of his predecessors; with results too, of the most favourable kind, we have taken some pains to lay before our readers, the most practical and essential information which his memoirs contain. All who feel disposed to give the medicine a trial in their practice, whether in scrofulous or other diseases, will, we believe, derive important information and assistance from the investigations of M. Lugol.

G. E.

Art. XVI. *Les Médecins Français Contemporains.* Par J. L. H. P***. Paris, 1827, pp. 112, 8vo.

A PART of the articles of the work before us, first, appeared in a Parisian Journal, where they attracted so much attention as to induce their author to embody them in a separate form, and to complete the task he had undertaken, on a more enlarged and extended scale. The work, as far as it has progressed, has lost none of its claims to notice. Its style is lively, piquant, and of classic purity and elegance; but this is not its chief merit. Neither is it a mere biographical [illegible] of the physicians of the present time, who have contributed to the advancement of French medicine. Its aim is to make us acquainted with their respective labours, to canvass their opinions, and to estimate the influence which these opinions have exercised over the science. If we may venture to judge of the whole, from the articles on those physicians with whose doctrines we happen to be tolerably familiar, both from their lectures and works, we should say that the author has treated of his cotemporaries in a spirit of philosophical candour and fairness, as well as with ability and learning. He commences with Broussais, with whom we shall occupy ourselves on the present occasion, reserving for future numbers, such other notices as may interest American physicians.

The boast of this celebrated reformer, that he has created Medicine, is extravagant: still it cannot be denied that his works form as distinct and important an epoch in the annals of medicine as those of Galen, Stahl, or Boerhaave of preceding times. Aided by the labours of Bichat, he has opened to us the only legitimate mode of investigating pathological derangements, by connecting them with the vital properties and functions of the system. 'In conjunction with that illustrious physician, he may be considered as having really given birth to the anatomico-pathological school, now making such rapid advances, and which threatens to subvert some of the peculiar doctrines of the physiological medicine. So that Broussais has not only given us a new system of doctrines, but he has taught us the way to detect his own and others' errors, by localizing disease more completely than any preceding writer, and by making it to consist in something positive, appreciable; in short, in the organic lesions of the animal structure. If this principle does not lay open to us the whole arcana of pathology, it, at any rate, will exercise a salutary controul over the imagination, and confer on the doctrines of medicine, a greater degree of stability than they have heretofore enjoyed. Although the American Journals have not been altogether silent on the progress and tendencies of these views, they have not perhaps brought them before their readers as extensively as their importance would seem to claim. The work at the head of this article, opens with an able critical exposition of Broussais' works and doctrines, the most interesting parts of which, we shall endeavour to condense, with such additions and alterations as our own investigations have led us to adopt.

M. Broussais is without doubt, the most remarkable medical writer of the present time. The splendour of his works, the celebrity of his lectures, and a great accession of proselytes ha[illegible] a few years, widely extended his name and doctrines. He has effected an important revolution in the science of medicine in France—a revolution in some respects beneficial, in others prejudicial, but in every way worthy our consideration. Heretofore the spirit of party, more than ignorance, has controlled the judgments passed upon his writings, both by partizans and adversaries. By one side he has been represented as an unrivalled, transcendent genius, who has definitively settled the principles of theoretical and practical medicine, and that hereafter, physicians will have little more to do, than to follow on in the route he has marked out. By the other, he is considered as a mere sectary, whose impetuosity and audacity take the place of genius and of force, and who has fascinated the weak and the superficial by lowering the science to their standard. There are doubtless, other and more temperate opinions, which, after the first effervescence of party shall have passed away, will be listened to and prevail: in the mean time, we shall attempt without siding with either of the belligerents, to give some account of the works and doctrines of this celebrated man.

The *History of Chronic Inflammations, the Examinations of the Systems of Nosology, &c.* and the *Treatise on Physiology applied to Pathology*, are the three principal works which comprise the different parts of his doctrines. Published at different and distant periods, they mark the several changes the author has given his doctrines in their progress to their present form.—*The History of Chronic Inflammations* is a work of pure observation, abounding with just and sagacious views on pathological anatomy, combined with fragments of a half-formed theory. He has here pointed out the errors that prevail in the treatment of many of these cases, the physiological importance of the alimentary canal, the frequency of its lesions, until then, not at all understood, and the influence of these affections on other diseases which they complicate. He insists on the necessity of ascertaining the condition of the digestive organs before introducing into the stomach, medicines that may aggravate its already diseased state. And, finally, he investigates the character of inflammations in the different tissues of the economy, detecting their origin, tracing out their progress, and following them through their various phenomena, to their ultimate disorganization of the organ affected. The most rigid scrutiny pervades these researches. A great number of cases, described with clearness and precision, alone furnish the materials from which are deduced the nature of the malady, and the method of treatment. The merits of the work are rendered still more striking by being [illegible]ed in a style at once incorrect, rugged, and capricious, but at the same time fervid, copious, and forcible. Notwithstanding this, it will remain a monument of the author's genius, and of the originality of his views.

The *Examination* is composed of two parts entirely distinct in character and object. The first is a collection of aphorisms on physiology, pathology, and therapeutics—a code of a new medical doctrine, given without commentary, in a peremptory, magisterial tone, and in concise, laconic language. A system so novel and vast, thrown as it were before the public in so abrupt a manner, would neither have excited attention, nor been comprehended, had not the author at the same time destroyed the authority of his predecessors and cotemporaries, and overthrown the prevalent theories of the schools. The enterprise was bold, and required for its execution a combination of no ordinary qualities—audacity of mind and character, perseverance, and solid scientific resources; Broussais possessed these, and, it must be confessed, has known how to employ them. His book created a great sensation, and, considering the period at which it appeared, its success has been truly astonishing.

The Hippocratic doctrine, the humoral pathology, Brownonism, and the doctrine of the nosography of PINEL, are the principal subjects treated in the Examination. Broussais has shown conclusively that the Hippocratic medicine, which some would yet consider as a system of doctrine, is nothing more than a collection of traditional opinions, without order or bond of connexion, and altogether behind the actual state of the science. He nevertheless renders a just tribute to the eminent genius of HIPPOCRATES, not imitating in this respect the cynical and unjust language of his cotemporary, RASORI.

The humoral pathology has given him but little labour to destroy. BROWN, BORDEU, and the recent labours of the French school, had already sunk its reputation very low. He has accordingly been reproached with conjuring up ancient errors for the glory of triumphing over them. Although this reproach is not without foundation, it must be confessed that the language of the humoral pathology has been for ages so interwoven through all parts of the science, that it yet appears in many modern works.

The doctrine of Brown was with more difficulty combated. In theory it is both philosophic and profound, and, after having borne sway throughout Europe, still exercises a considerable influence in the treatment of diseases. Broussais has devoted to its refutation both time and labour; for, as his own doctrine offers certain resemblances with that of the Scotch reformer, it was important for him to distinctly show in what and wherefore the two doctrines differed. The following are the principal propositions which Broussais establishes and sustains in contradiction with Brown's system. 1. The excitability is not uniform in all the organs; neither is it ever increased or diminished in the same degree throughout the system at the same time. 2. Diseases are never primarily general. 3. Diseases of debility, (asthenia,) are not the most numerous. 4. Stimulant remedies are very seldom required in the treatment of diseases.

Formerly, Broussais had designated the venerable author of the nosography as the father of clinical medicine in France, as a genius who had rendered great services to science and to humanity; but then it seems he had not thrown off the yoke of authority. He had been his pupil, and continued for a long time to coincide in opinion with his master on many points. In his *Examination*, however, which first appeared in 1816, his tone with regard to him is altogether changed. Now he proclaims the classification of the nosography to be radically vicious, grouping symptoms arbitrarily, and thus constituting a system of pure ontology. This is a new term which Broussais has introduced into medicine. By an ontologist he would designate a physician who treats of diseases as distinct essences existing independently of organic lesions. The bitter, sarcastic tone, in which Broussais attacked his ancient friend and master, has justly brought down upon him the heavy censures of his compeers; but while we venerate Pinel, and are grateful to him for the services he has rendered, it must be conceded that his system is shown to be defective, and must be renounced. Viewed as a whole, the *Examination* is undoubtedly a most remarkable performance. Minds capable of projecting and executing the entire re-edification of a science, are indeed rare. Whether true or false, the system which such a mind elevates on the ruins of all others must at least be a work of genius. It is truly a vast idea to embrace in one view so many different systems, to examine them successively, and to judge of their soundness in a philosophical manner. Broussais appears to have been the first physician who has thrown over the whole history of medicine a coup d'œil so scrutinizing and hostile. Every one felt the necessity of reform, but no one ventured to attempt that for medicine which the nineteenth century had accomplished for the physical and natural sciences. Broussais undertook the task, and it must be allowed has in part executed it. He has done for medicine what DESCARTES did for all the sciences. He has shown us that the medical edifice, reared during the course of ages, is a mere scaffolding without stability or support. He has made us conscious of the absurdity of its principal dogmas, the radical vice of medical language, and of the innumerable errors which it only served to perpetuate. The imperfections of the work are neither few nor trifling; the reader will find in it much to pardon and overlook, but he will also find the subversion of many errors.*

The *Treatise on Physiology applied to Pathology,* is greatly inferior to either of his preceding works. It reveals neither the sagacious observer of the first, nor the able controversialist of the second. It was evidently written for the purpose of exhibiting in a more positive manner than had been previously done, the strict accordance of his doctrines on the nature of diseases and their treatment, with the laws which regulate physiological phenomena. In this, however, he has failed. His physiology, instead of standing prominently forward as an independent system of doctrine, is straightened to accommodate itself to the different pathological views he had formerly promulgated. Besides, a full exposition of the author's opinions on animal organization, this work contains his peculiar notions on the nature of sleep. on the influence of the stomach over the passions and the intellectual operations, and the sympathetic action of the nerves; all of them sufficiently striking and novel to merit a serious examination. In other respects the book is of little worth, has been but coldly received by the public, and done little for the advancement of physiological medicine.

Besides the above works, M. Broussais has in the course of his medical career published several others, which we can only name on the present occasion. An *Inaugural Thesis on Hectic Fever*, an article, inserted in the Encyclopédie Progressive, *on Irritation, a Ca-*

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* Since this criticism was written, M. Broussais has published a new edition of his Examination, greatly improved, and enlarged to double the size of the former. It is from this edition that a translation is now preparing, and which will be shortly published by Messrs. Carey & Lea.—ED.

techism of Physiological Medicine, a Treatise on Irritation and Insanity, besides numerous articles in his Annals of Physiological Medicine. All except the first, bearing the impress of a bold, restless, and innovating spirit, but adding nothing of consequence to the doctrines he has previously inculcated.

It is no easy task at this early day to give a comprehensive summary of the physiological medicine. Some of its doctrines, even with the professed disciples of the new school, are still *sub judice*, and many of them have not received that degree of attention which is required to fix their influence and extent in the general system. We will endeavour, however, to bring together its more prominent features.

Physiological Principles.—1. Life is invariably revealed by one phenomenon, denominated irritability, which resides in every part of the animal system, and is the generator of all other vital phenomena: Sensibility is not a primitive vital property—it is the functional result of irritability, and sensation is the perception of the exercise of this primitive vital property. Irritability is the property which a part possesses of being moved on the application of stimuli, which action is usually denominated contraction; so that the vital properties are finally resolved into the power of contraction, or the property of contractility.

2. The composition, formation, development, and conservation of vital substances depend upon an invisible, incomprehensible power, called vital energy, *(force vitale,)* and upon the operation of a peculiar chemistry, *(chimie vivante,)* with which living parts are endowed by this power.

3. Life is alone maintained by the constant application of stimuli, producing excitement; and each organic tissue or organ has its appropriate stimulus.

4. Life, or the property of contractility, is not equally distributed throughout the system. Some tissues and organs possess it in a high degree, others in a less degree. This inequality of distribution causes an endless diversity in the character and energy of the phenomena which occur in the different tissues of the system; but however diverse in their forms, they are always identical in their nature, and are to be resolved into the exercise of the property of contractility. The tissues most highly endowed with vital energies, are also the most easily stimulated, and quickly transmit their stimulations to every part of the system.

5. The essential phenomena that follow the application of stimuli to a vital tissue, are contraction of its fibres, and an accumulation

of the circulatory fluids in the parts acted upon, constituting a state of vital erection, which state may be repeated in the brain, through the medium of the nerves, producing there sensation, and then successively desire, will, muscular motion.

6. The stimulation produced in one part is soon repeated, through the mediation of the nerves, in other parts: this is sympathy. The excitement is never uniform throughout the economy: when it is excessive in one part, its due degree fails in some other. Its just distribution throughout the system constitutes a state of health.

Pathological Principles.—1. 'Disease is the result of the irregularity of function: which function becomes deranged from some change injuring the vital properties of the part affected. This change consists in either an increase or decrease of the vital properties, produced by the orderly and healthy actions being broken by the undue application of excitants. The derangement may take place in various ways. Sometimes the excitants are too powerful, or not enough so: in the first case the irritability becomes too great, and in the other falls belows the healthy standard. In other instances again, the irritability is excessive or defective: in the first case the natural excitants become insufficient, and in the other too great.

2. The pathological condition then, is either the exaggeration or diminution of the physiological condition, and not an alteration of qualities. Healthy excitation, irritation, super-irritation, and inflammation, are the same condition of things, only in different degrees, and every pathological alteration arises from irritation or ab-irritation.

3. Irritation is always identical in its nature, wherever situated, and is characterized by afflux of the fluids. It is primarily local, afterwards extending to other parts or organs without changing its character, but always augmenting the vital phenomena. Exaltation of one or many of the organs usually induces debility and languor in the others.

4. Irritation may be either continued or intermitting.

5. Irritation of the sanguineous capillaries, attended with pain, heat, tumour, and redness, is inflammation. If these vessels allow the blood to escape, it becomes a hæmorrhagy. When the irritation is situated in the vessels conveying the colourless fluids, there is neither heat, redness, nor pain, and the affection is denominated a sub-inflammation. When the irritation is seated in the nervous tissue, it is chiefly characterized by pain, and called a neurosis.

6. The idiopathic fevers of authors, are gastro-enteritis: sometimes complicated with other inflammations.

7. There are no specific diseases. All agents, either augment or depress the vital properties; producing either irritation or ab-irritation.

8. Debility may be produced, by either irritation or ab-irritation. The former is not a disease, and will cease on the removal of the irritation producing it. Primitive debility occurs but rarely; it is chiefly manifest in scurvy, asphyxia, from long abstinence, loss of blood from hæmorrhagy, and in old age. It may even in these cases be accompanied with irritation of one or more of the organs.

Therapeutical Principles.—1. As there are only two classes of diseases, the irritative, and the ab-irritative, so there are only two therapeutical indications: to excite the debilitated part, and to enfeeble the super-excited part. All remedies are therefore either debilitants, or stimulants. Debilitants are either positive or negative. Positive debilitants are either extremely few* or perhaps do not exist. The negative debilitants are the abstraction of blood, the application of cold and abstinence.

2. Besides the use of debilitants to subdue irritative diseases, stimulants are frequently applied to a distant, sound part, or to a less important organ than the one affected, for the purpose of translating the irritation to it, on the principle, that irritability becomes diminished in one organ or part, from its excessive accumulation in some other. This is called revulsion. It can only be employed in diseases of little intensity, or after the force of the disease has been weakened by debilitants. The crises are merely natural revulsions; as where internal inflammations are removed on the coming on of general perspirations, hæmorrhagies, flows, &c.

3. There are no such things as specific remedies. When stimulants remove certain diseases heretofore esteemed specific, it is only by acting as revulsions.

4. Direct stimulation is only indicated in diseases of primitive debility. Irritative diseases are sometimes cured by applying stimulants to sound parts, and thus indirectly debilitating the irritated organ.

5. As all diseases are originally local, it is necessary to search out the organ primitively affected: on correcting its derangement, the sympathetic actions will cease.

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* M. Broussais, in his Examination and on other occasions, has admitted, to a certain extent, the truth of Rasori's principle of contra-stimulation. Brown has also remarked, that certain substances stimulate the economy in a way subversive of its healthy powers, and thus depress its vital actions. Neither of these physicians, however, seem to have been willing to employ the principle in the treatment of diseases.

Such are the leading features of the physiological medicine; reducing the varied phenomena of life to a few general principles, and the treatment of diseases to two indications. It would not be difficult to show that a part of this theory rests upon insufficient data, and that a part of it requires the addition of other principles to enable it to account for all the phenomena of life and disease; but it will be a more profitable and agreeable task to sum up in a few words the benefits, we think, Broussais has conferred upon science by his labours. He has triumphantly overthrown the besetting vice of Brown's system—the doctrine of indirect debility; he has, more clearly than any preceding writer, pointed out some of the laws which regulate the action of stimuli on animal organization; he has shown the necessity of tracing diseases to the organ affected, and of referring symptoms to their true causes; he has introduced into medical language, a precision heretofore unknown, although his own language is often uncouth and unnatural; he has shaken the system of eclecto-empiricism, that patch-work of accommodating minds, by pouring upon it a torrent of unanswerable ridicule; he has guarded practitioners against the too frequent use of stimulants in the treatment of diseases, and destroyed the pretensions of a crowd of medicaments to specific and peculiar properties; in short, he has given a character and direction to medical science, which his most declared enemies find themselves obliged to conform to, and which promises still greater things for the cause of humanity.

Brownonism may be considered as in some sort the parent of both Broussais' and Rasori's systems, and a comparison of the principal points of the three will enable us to form precise notions of the distinctive characters of each.

They all agree in the first great principle—that life is alone revealed to us by the production of irritability, on the application of stimuli. What Broussais calls irritability, Brown denominates excitability, and its result excitement. They both limit vitality to two modifications—its excess and diminution; all diseases to two classes—the irritative, (sthenic,) and ab-irritative, (asthenic,) and contend that all agents whatever, applied to the living fibre, stimulate it. So far they both agree; and it is somewhat extraordinary, that starting from the same general principles, the two systems should immediately diverge, and lead to results in almost every instance diametrically opposite to each other.

The following are their most material discrepancies: Brown taught that the excitability is uniformly spread throughout the system, that it is one and indivisible, and cannot be exalted in one part without being increased in every other. Broussais, on the contrary, although he believes the irritability to be always identical in its nature, contends that it is imparted in different quantities or degrees to the different tissues; that it cannot be either increased or diminished throughout the whole system at the same time, but that its augmentation in one part necessarily leads to its diminution in some other part, and *vice versa.* Here the Scotch theory is a conception purely speculative, whilst Broussais reposes his on the distribution of vitality, as taught by Bichat.

Brown makes excessive excitement to exhaust the excitability, producing indirect debility; but Broussais insists that this state increases the irritability, as long as the organic structure is not materially impaired, and that in a state of health, the increase of stimulants tends to a state of strength, by a law of habit, which enables organized matter to accustom itself, to a certain extent, to the kind and quantity of stimuli applied.

In pathology they class diseases in an inverse order. Brown, blinded by the state of apparent feebleness, which accompanies all severe diseases, and taking into consideration the stimulant character of their causes, concluded that almost all diseases were asthenic. Broussais, on the other hand, having remarked that debility was the consequence of a phlogistic condition of the internal organs, and viewing the nature of causes as very chimerical in settling the character of diseases, considers a very large majority of diseases to be irritative, (sthenic.)

Brown regards nearly all diseases to be primitively general, in accordance with his notion of the indivisible character of the excitability; while Broussais makes them all primitively local, and only rendered general by the law of sympathy.

In therapeutics there is the same dissent. Brown imagining that he every where meets with debility, continually lavishes stimulants. Broussais, seeing every where irritation, deals as constantly in debilitants. The former, in conformity with his views of the nature of excitability, teaches that all medicaments act in a general manner on the system, to whatever tissue they may be applied; while the latter believes them to act always locally on the part to which they are applied, and that other organs are only modified sympathetically through their agency.

The contra-stimulists agree with Brown and Broussais in their division of diseases into sthenic and asthenic; and with the latter in considering the sthenic to greatly predominate. They admit with Brown the doctrine of diathesis, both local and general. With both they differ entirely on the action of medicaments and their classification. They maintain that not only all external agents do not stimulate the living fibre, but that a very great number of them do directly and positively depress the vital actions. These they call contra-stimulants, and singular enough! they belong principally to that class of remedies, (the mineral,) to which both Brown and Broussais attribute stimulant properties in an eminent degree.[*]

The cause of this wide dissension is worthy of attention. Rasori, becoming convinced that the sthenic character predominated in a multitude of cases, where the followers of Brown admitted only debility, and seeing, besides, that they are cured by remedies reputed to be stimulants, he hence concluded that these reputed stimulants were not really such, but acted in a manner diametrically opposite: so that differing from Brown in his pathological theory, he coincides with him in the curative means to be employed. So convinced are the Italians of the nature of this class of remedies, that they consider their operation on the system, as a test of the existing diathesis, and when they are found no longer to agree, it is attributed to a change of diathesis, and the class of remedies are changed accordingly. Broussais of course dissents wholly from these views, and condemns the employment of these remedies as incendiary and pernicious. When they do remove diseases, he thinks it is by acting revulsively; but insists that their use is fraught with danger, and that the principle should be rejected.

In concluding, it might be expected that we should take some notice of the numerous critiques that the physiological medicine has called forth, but we have extended this article much beyond our first intention, and shall close it by remarking, that they are, for the most part ridiculously extravagant, and have totally failed in retarding the propagation of the doctrine, or in refuting its errors. From this remark we would except the Letters of M. Miquel, which are able, and advance objections, which, as far as we know, have not been answered. Whatever modifications, however, the doctrine is destined to undergo, from further experience, and the accessions of scientific researches, there will, we confidently believe, always remain enough of Broussais' labours to place him among the most illustrious names that have adorned our profession. C. D.

ART. XVII. *Lehrbuch der Gynäkologie, oder Systematische Darstellung der Lehren von Erkenntniss und Behandlung Eigenthümlicher Gesunder und Krankhafter Zustände, Sowohl der nicht Schwangern, Schwangern und Gebärenden Frauen, als der Wöchnerinnen und Neugebornen Kinder. Zur Grundlage Akademischer Vorlesungen, und zum Gebrauche für Praktische Aerzte, Wundärzte und Geburtshelfer, Ausgearbeitet.* Von CARL GUSTAV. CARUS, Dr. der Philosophie, Medicin und Chirurgie, &c. &c. Zweiter Theil, pp. 608. Leipzig, 1828.

Compendium of Gynæcology, &c. By C. G. CARUS, Doctor of Philosophy, Medicine and Surgery, &c. Part second. Leipzig, 1828.

THE second volume of the work before us, commences with the consideration of the second part of special gynæcology, under which head, it has already been shown, that Professor Carus embraces whatever appertains to the woman, considered in relation to her offspring; as "pregnancy, delivery, and the period of confinement, and nursing."

> "The remarkable cyclus of the female existence," says the author, "which, in speaking of the three great stages of life, we divided into pregnancy, (Schwangerschaft,) delivery, (Wendepunkt,) and the puerperal state, (Wochenperiode,) commences with the act of conception."

By conception is meant that condition resulting from the co-operation of the male and female orgasm, by which is developed the rudiment of a succeeding pregnancy. This latter state includes that period during which the product of the conception is lodged within the cavity of the uterus, and attains its full development.

> "The conception is considered natural, when it takes place from a fruitful union between the sexes, and constitutes the foundation of a natural pregnancy. By a natural pregnancy is understood that in which the impregnated ovum is lodged within the cavity of the uterus, has its different parts regularly unfolded, and at the expiration of the proper time, attains its full development."

1. *Conception*—Under this head, the author considers the relationship between the two sexes and the new product, as exemplified in the propagation of animals and vegetables, which he says presents a striking difference.

> "In both plants and animals, the rudiment of the new being is, at first, manifestly an integrant part of the material organization. This is exemplified in the first, in the fruit-germ, which occupies the flower before it becomes fecundated; and in the second, it exists in the ovaria, like any other organ of the body, long before the act of copulation. In the male, however, the germ does not

appear so clearly before the union between the sexes, to consist of a portion of the old organization; indeed it may be alleged to be the product of the act itself—an opinion which is rendered still more probable, when we examine those animals, which approximate, by the early development of their germs, to the mode of propagation exhibited by the lower order of animals, by cuttings, as is seen in the polypus, (hydræ,) where the young, without previous union of the sexes, sprouts up, like a twig, from the body of the mother. These considerations render it probable that the materials of the new organization are furnished by the mother, and that they are animated, or vivified, by the influence derived from the male. It may be compared to a tree, which, under the influence of light and warmth, brings forth flowers and fruit, or to the earth itself, the organic products of which, influenced by the sun and other agents, attach themselves, like a new offspring, to its surface."

Against the hypothesis which supposes the necessity of an admixture of the male semen with the materials furnished by the mother, and its constituting a part of the new organization, our author opposes the phenomena of the impregnation of plants, where he conceives that the pollen can scarcely become mingled with the germ of the flower—the same process in the fish, and amphibiæ, in which the mere contact of the attenuated semen is all that is requisite to ensure fecundation, and even some anomalous cases of impregnation in the human subject, as, for instance, when conception has taken place, where there was a complete occlusion of the vagina, or uterus. In a remarkable instance of this kind mentioned by Champion, (Journal Universel des Sciences Medicàles, Mai, 1819,) "a woman became pregnant whose hymen completely closed up the vagina, except a small oblique opening, scarcely large enough to admit a small sound."

The next point in the investigation is to determine where this germ or ovum first becomes visible. In animals this is unquestionably the ovaria, but in the human subject, it has been a question with some, (amongst others, Wildbrand,) whether it does not first become manifest within the cavity of the uterus. Arguments drawn from analogy, however, as well as the existence of the vesicles of De Graaf, in the ovaria, where they probably become expanded under the influence of the exalted creative powers, awakened by the sexual orgasm, seem to prove, that the germ constitutes from the first an integrant part of the ovaria of the mother; that within the space of two or three days after conception, in the human subject, it is separated from this connexion, to be conveyed, subsequently, into the cavity of the uterus, to undergo its full development. Such is the opinion of our author, and we believe of most well-informed physiologists. Relative to the subject of conception, he very correctly observes, that the corpora lutea cannot be considered as affording evidence of a previous conception, since they are often developed by disease upon the surface of the ovaria, or by unknown causes.

It appears from records kept upon the subject, that females conceive most readily in spring, and in those years which are most moist and seasonable; that in autumn, and especially in the month of October, fewest conceptions take place, and consequently that the smallest number of births occur in June and July. The tables of our author, moreover, prove the correctness of an assertion made by Professor Osiander, that more male children are born during the new and increase of the moon—more females during its full and decline.

2. *Pregnancy in general.*—Pregnancy is divided, by Professor Carus, into normal and abnormal, of which the first only is considered in this place. It is again divided into single, where there is only one child; doublets, or twin pregnancy, where there are two; triplets, where there are three; quadruplets, where there are four children, &c. More children than these are unquestionably sometimes born at one birth, yet we must not give credence to the fabulous reports of women having been delivered of ten or thirteen, nor to the still more miraculous story of a Countess of Henneburg, who is reported to have been delivered, at one time, of three hundred and sixty-five children. "It is stated by J. F. Osiander, that at the Maternité of Paris, the proportion of twin to single births, is 1 to 91; and that triplets only occurred once in eight thousand six hundred and fifty-four births."

A remarkable departure from the characters of a true pregnancy, sometimes takes place, which consists in this, that the two fœtuses are not the result of the same act of the orgasm, but are the consequence of two separate conceptions. This form of pregnancy has been divided into two varieties, according as the second conception takes place directly after the first, or as a considerable space of time elapses between them. The first variety constitutes what has been called superfecundation; the second superfœtation. Upon these points there has always existed some difference of opinion, nor is the question decided, even at present, there still being some who believe in the possibility of superfœtation, whilst others deny that it can ever take place.

With regard to the question of superfecundation, the difficulty is easily solved; for, although it may at first sight appear impossible to account for such an occurrence, experience clearly proves that it does sometimes take place, as well in animals as in the human subject. Thus it seems, that during the first or second day after the first conception, the orifice of the uterus remains sufficiently patulous to admit of the occurrence of a second conception. We find, accordingly, that in animals, the offspring presents, not unfrequently, the characters of more than one father, some being black. some differently coloured—clearly proving that they are the result of different conceptions, and consequently of more than one act of the orgasm. In the human subject, moreover, cases have occurred in which a woman has been delivered, at the same birth, of a child conceived of a white, and one of a black parent, proving beyond contradiction that superfecundation does sometimes occur.

As to superfœtation, however, our author thinks, that in a single uterus it is difficult to conceive how it can possibly take place.

> "In the first place, the condition of the uterus is so much changed after conception, that the introduction and development of a second ovum is impracticable; and those cases in which a very small and a very large fœtus have been born at the same birth, or when one child has been expelled several weeks after another, must not be received in evidence; since all these circumstances can be much more easily explained by the more rapid development of the one than the other, as is sometimes seen where they are united together, in which case they are unquestionably the product of one conception. In cases of double uterus, however, something of the kind may occur, inasmuch as one part may become impregnated at a different period from the other. But even here it is seldom that more than one uterus becomes impregnated. An interesting example to the contrary, however, is mentioned by P. F. Meckel, of a double uterus, in one side of which was a full grown fœtus, while the other contained another of only four months."

Our author next goes on to describe the development of the fœtus, which he divides, very properly we think, into four stages, or periods. 1st. From the entrance of the ovum into the uterus to the period at which the placenta is formed, or from the beginning of the first, to the end of the third month. 2d. From the formation of the placenta to the time at which the motion of the child is felt, which embraces from the beginning of the fourth, to the end of the fifth month. 3d. From the time at which the motion of the child is felt to the period at which it attains such a degree of development as to enble it, by proper care, in the event of a premature labour taking place, to subsist independently of its connexion with the mother. This period extends from the beginning of the sixth, to the beginning of the eighth month. 4th, and lastly. That stage in which the fœtus attains such a condition as to enable it to survive if separated from the mother—where it has reached its full degree of development——when its external parts can be perceived, and its head, resting upon the brim of the pelvis, can be felt with the tip of the finger introduced per vaginam. This period will, consequently, comprise the whole time between the beginning of the eighth, and the end of the tenth month. This is a very natural division of the time consumed in the process of the development of the fœtus, and is calculated to be of considerable practical importance. It must be borne in mind, however, that in this specification of time, the lunar month, or period of twenty-eight days, is implied.

The human ovum examined during the earliest period of its development, resembles a small membranous vesicle, filled with a clear fluid, about the size of a common pea.* Its outer surface is shaggy or flocculent, so as to adapt it to a similar condition of the inner surface of the uterus, with which, at a subsequent period, it becomes united. These are the general characters presented by the human ovum, but when we examine it attentively, we find it composed of several parts, which demand a more particular investigation, inasmuch as each of these seems to fulfil some important part in the development of the future being. Unfortunately, the sentiments of writers are at variance, not only in reference to the precise office of these different parts, but even in relation to the existence of some of the parts themselves. Without pretending to reconcile these conflicting opinions, we shall endeavour to follow the author through the exposition of the sentiments which he has been led, by the result of his own observation, to adopt.

The vesicle, which is separated from the ovaria, may be considered the fundamental part, or element, in which the development of the future being commences. It is a small membranous vesicle filled with an albuminous fluid, called, in the human subject, *vesicula umbilicalis*. It is from this small vesicle that the intestines are formed, and, consequently, these being the parts of the fœtus first developed, it constitutes, as it were, the rudiment of the new organization. The umbilical vesicle, thus constituting the rudiment of the stomach and intestines, is surrounded, as in oviparous animals, by a kind of shell or casement, which, however, in the mammalia, and consequently in the human subject, is membranous, and is called chorion.

The umbilical vesicle, as well as the chorion, is probably coexistent with the development of the ovum, but they both undergo rapid changes, and numerous vessels become developed upon the surface of the chorion, which have been considered by some as veins, extending directly from the embryo, but which should rather be regarded as a plexus of absorbent vessels destined to convey a plastic substance poured out by the uterus. The chorion is not the only part that undergoes these changes: the umbilical vesicle gives rise to several other parts, amongst which we must mention the proper rudiment of the central part of the nervous system, or vertebral column. This first manifests itself in a kind of folding outwards of its rudiment, but subsequently becomes inflected upon the surface of the vesicle like the "meridian upon a common globe;" to this are united by degrees the parietes of the cranium and pelvis, and, at a still later period, those of the abdomen, and the different parts of the face. These parts at first open in front, all become eventually closed, "in the same manner that an individual, having his cloak drawn round his body, would close it in front."

The relations between the chorion and umbilical vesicle have been pointed out: a repetition of the same thing takes place between the latter and a second membrane, of a thin transparent character, destitute of blood-vessels, called amnion. This membrane constitutes one of the envelops of the fœtus, and contains a considerable quantity of a transparent fluid, called liquor amnii. To the parts which have been already enumerated, others are gradually superadded, which owe their origin to an extension of the development already commenced in the newly-formed appendages of the *vesicula umbilicalis.* On the part of the system of animal life, these are the organs of motion, (the bones and muscles,) and the organs of sense. While on the part of the system of nutrition and reproduction, they are the instruments of respiration, secretion, excretion, and generation. While these changes are going forward, an intimate connexion becomes established between the vascular system of the fœtus and that of the mother, by the vessels of the former ramifying extensively in the fundus of the uterus, and giving rise to the umbilical cord and the placenta.

II. *Physiological History of Labour.*—The circumstances which necessarily determine the occurrence of labour at the expiration of the term of utero-gestation, have been considered under the head of general gynæcology, so that we have only to examine the subject now as connected with the final objects of labour.

These may be considered as twofold:—1st. The expulsion of the child, and its separation from the source which was instrumental in its development, but which is now no longer necessary for its existence. 2d. The restoration of the mother to the condition in which she was before conception.

Under these heads should be considered, according to Professor Carus—1. The powers by which the labour is accomplished. 2. The general considerations which regard the expulsion of the new offspring: and 3. The special consideration of the passage of the child through the pelvis of the mother. This division of the subject is calculated to be useful in practice, because, by attending to it the mind is made to perceive more clearly what is to be left to nature, and what to be accomplished by art.

1. *The powers by which Delivery is accomplished.*—It is necessary, moreover, in considering the powers by which the child is delivered, to distinguish between those which appertain to the genital organs, especially the uterus, and those which belong to the general system.

The powers which reside in the uterus are extraordinary, as well on account of their great efficiency, as the curious fact, that under the natural co-operation of circumstances, they are not called into action, until the arrival of that particular period, at which the fœtus has attained its perfect development, and is capable of subsisting upon its own resources.

> "To enable us," says the author, "to comprehend the powers of the uterus, it is necessary to remember its intestine-like conformation, and structure, in virtue of which, it performs an action altogether similar to that which we observe in the intestines. There is, in the uterus, as well as in the intestinal tube, a kind of alternate action, between the longitudinal and circular fibres, the former contracting and shortening themselves, while the latter remain in a passive condition."

This propulsive faculty of the uterus is, indeed, so powerful, that it often continues, even after the death of the mother. A singular instance, confirmatory of the truth of this assertion, is detailed by Ebel, in Hufeland's Journal der Prakt. Heilkund. 1822.

> "A woman, aged thirty years, died undelivered, at the full term of utero-gestation, and was buried at the expiration of three days. But, some doubt arising as to the cause of her death, the body was exhumated, and the child found lying between her thighs."

The contractions of the uterus, called labour pains, should be considered in reference to their causes, character, periodicity, the suffering they occasion, their object, and the circumstances which serve to distinguish them—upon each of these points, Professor Carus makes some remarks; but as they possess no particular practical interest, we shall pass them over: we will merely mention the characters, by which the true labour pains may be distinguished from those which are anomalous, or false—These are:—

> "1. Their periodical recurrence. 2. The extension of the pains from the region of the uterus to the symphysis pubis. 3. The uterus is contracted into

a hard, rounded ball, during the existence of a pain. 4. The change produced by the contraction of the uterus upon its neck, and vaginal portion. 5. The true pains cannot be subdued by antispasmodics, injections, or any other means. These characters do not appertain to the pains which attend colic, inflammation, or any other condition."

The vagina assists very slightly in the expulsion of the child, and that merely by its elasticity, and the abundant mucous secretion which it pours out.

But besides those powers which are inherent, as it were, in the parts already mentioned, there are others possessed by the general system, which must be taken into the account. These seldom become effective before the os uteri is fully dilated, but after that period, they assist materially in promoting the labour. The parts which are most active in producing this result, are the voluntary muscles, especially those of the abdominal parietes:—the recti muscles, the external and internal oblique, the transversalis, but above all, the diaphragm. Whenever these muscles are called into action, the cavity of the abdomen is diminished in size; the trunk is fixed firmly in a flexed position, and more or less pressure is exercised upon the uterus. The trunk being in this manner fixed, becomes a solid point of support for the extremities:—the individual generally rests her feet upon some fixed point, grasps the nearest object firmly with her hands, and has the head flexed forwards upon the chest—this is usually followed by a full, protracted inspiration, which forces the diaphragm downwards, and thus diminishes still more the capacity of the abdomen, and augments, in a proportionate degree, the pressure upon the uterus. This simultaneous action of the muscles of the abdomen, and confinement of air in the lungs,

"Exercises considerable influence upon the general system;—the pulse becomes frequent, the skin red, and suffused;—a profuse perspiration breaks out, and more or less congestion takes place in the head and chest. The pressure of the diaphragm upon the stomach occasions an evacuation of its contents; and that of the uterus upon the bladder and rectum, an involuntary discharge of urine and fæces. The violent straining, together with the pain, gives rise to a trembling of the extremities, and in some instances to slight convulsions. The patient moans loudly, the mouth and throat are dry and parched, and a general lassitude ensues."

2. *General History of Natural Labour.*—To ensure a natural labour, three circumstances are indispensably necessary: 1. The body of the woman, and especially those parts which are instrumental in the expulsion of the child, must be properly formed. 2. The uterus must have its natural conformation. 3. The fœtus must not only possess its natural development, but must also be natural, as regards

volume, situation, and presentation. But notwithstanding all these circumstances are necessary to ensure a natural labour, they may all exist, yet the delivery may, from some cause, be difficult or preternatural.

Our author divides the whole time consumed in a natural labour into five stages, or periods. The first includes the time taken up by the premonitory symptoms of labour, and the obliteration of the neck of the uterus: the second the dilatation of the os tincæ: the third the escape of the waters, and the descent of the presenting part of the child into the vagina. The fourth the delivery of the child: and the fifth the delivery of the after-birth. This division corresponds very well with the different acts of a natural labour, and deserves to be remembered by the accoucheur.

The symptoms which immediately precede labour are, usually, a subsidence of the abdomen, a relaxation of the mouth of the uterus, which readily admits the tip of the finger; a constant, and indomitable desire to pass urine and fæces, augmented vaginal secretion, with relaxation, and great heat of its parietes. To these symptoms may be added slight, transient pains, which are owing to the contraction of the fibres of the uterus. They are designated, from the period at which they make their appearance, precursory pains, (dolores ad partum præsagientes.) They vary in intensity in different constitutions, being in some strong, and almost continuous, and others slight, sometimes scarcely perceptible.

The natural tendency of the augmented mucous secretion—the relaxation of the mouth of the uterus, and of the vagina, and of the contraction of the longitudinal fibres of the former organ, which is principally instrumental in the production of the pain experienced during the first stage, is to dilate the os tincæ.

The slight pains which are experienced during the first stage, gradually increase in violence, and usually recur at intervals of ten, fifteen, or twenty minutes. From their peculiar character, they have been called grinding pains. They seem to be instrumental in opening the mouth of the uterus, which is probably accomplished by the more powerful action of the longitudinal, than of the circular fibres. In this manner, the lips of the uterus are drawn upwards, over the head of the child, the membranes are detached to a small extent from the inner surface of the organ, and a small quantity of blood is then allowed to escape, which, mingling with the mucous secretion, constitutes what is usually called "*Show.*" The time consumed in the second stage of labour, or the dilatation of the os uteri, is extremely variable, the whole process being, in some cases, completed in six or eight hours, but in others, especially in individuals who are advanced in years, at the period of their first labour, requiring fifteen, twenty, or thirty hours for its consummation.

The os tincæ being thus dilated, the membranes protrude, in form of a rounded pouch, and finally give way, and allow the greater part of the liquor amnii to escape. To this, generally succeeds a temporary pause in the pains, during which, the uterus is contracting, to occupy the space occasioned by the escape of the waters. They soon recur, however, with increased energy; the contraction of the longitudinal fibres tends to draw the lips of the uterus still more over the head of the child: the latter exposed to a considerable extent, but still surrounded by the os tincæ, descends lower into the cavity of the pelvis: the pains assume more of the bearing down character, a general heat of the skin succeeds, alternating with frequent chills, or rigors, and the presenting part finally escapes entirely from the mouth of the uterus, and becomes fairly engaged in the vagina. It is at this latter period, that the child sometimes begins to breathe, and according to the report of ZITTERLAND, (Hufeland's Journal, 1823,) in some instances, cries so loudly as to be distinctly heard by all who are present. This occurrence, however, Professor Carus considers, must be exceedingly rare, since out of about four thousand births, he has never met with it.

After the head has escaped from the uterus, a momentary pause ensues, similar to that which succeeds the escape of the waters. The pains, however, are soon renewed; the vertex becomes engaged between the labia, and is in most cases, expelled by the agency of a few effective pains, accompanied by a violent effort on the part of the mother, and a general commotion of the whole system. In a short time, the body of the child is delivered, and the remainder of the liquor amnii, which was confined between the body of the child and the surface of the uterus, escapes. This stage of labour generally occupies, in those who have previously borne children, from half an hour, to an hour and a half, and in some cases a much longer period.

In a number of instances, the delivery of the child is followed immediately by that of the placenta. But in most cases, an interval of variable duration takes place between the one and the other. This may be owing to the firm adhesion of the placenta; to a kind of pause, or suspension of the efficiency of the uterine fibres; to their irregular contraction, &c. During this period, a rounded tumour, about as large as the head of the child can be felt above the symphysis pubis, consisting of the uterus containing the placenta within its cavity. After this pause, a few active pains supervene, which expels the secundines, and with them, a few ounces of blood.

The process by which the placenta is detached from the surface of the uterus is easily understood. In proportion as the fibres of the latter contract, its surface becomes diminished, while that of the placenta remains stationary, and the two corresponding surfaces being thus rendered of unequal extent, the delicate attachments between them are broken up, and the placenta is finally separated, and thrown off.

We have thus endeavoured to condense the author's description of the general phenomena of a natural labour, as they occur in the five stages into which he has divided the process. While it presents a very good exposition of the most striking acts of the parturient state, it does not furnish us with any thing new, or deserving particular comment. We shall, therefore, pass on to the consideration of the mechanism by which the child passes through the cavity of the pelvis.

It is scarcely necessary to observe that the child may pass through the pelvis, either with the head or lower extremities presenting, thus laying the foundation for the division of labours into two orders, which are again subdivided, according as the head, the face, the feet, knees, breech, &c. present. Delivery may take place under any of these circumstances, without the assistance of art, yet head presentations are by far the safest, both for the mother and child.

But whether the one or the other of these parts present, the mechanism of the passage of the child through the pelvis, may, according to the author, be reduced to the following rules:—

> "1. The presenting part of the child must pass through the transverse diameter of the greater pelvis to the upper opening of the lesser, which it must enter in the direction of the axis of Levret. 2. The greatest diameter of the head must enter the superior axis in the direction of its greatest diameter. 3. The presenting part of the child, as soon as it has become fairly engaged within the cavity of the pelvis, performs a revolution of the eighth of a circle, in consequence of its coming in contact with the inclined plane presented by the inner side of that cavity, and not from the influence of the spiral fibres of the uterus, as was supposed by Schweighauser. 4. The presenting part of the child, having its long diameter in this manner brought to correspond with the antero-posterior diameter of the pelvis, remains in that direction during its escape through the os externum, because the recession of the os coccygis backwards, makes this the longest diameter of the outlet of the pelvis. 5. The long diameter of the presenting part must pass along the axis of the pelvis. 6. The

more the head is folded upon the chest, the thighs upon the abdomen, and the arms upon the breast, the greater the inclination of the back of the child towards the pubis, and the more the umbilical cord is placed out of the way of pressure, the more safely will the labour be accomplished."

I. *Class of Labours.—Head Presentations.*—Turning our attention more particularly to the subject of labours, we find the first class, or those in which the head is the part that presents, divided by the author into two orders, according as the anterior or posterior part of the head presents. The first order, or presentation of the occiput, is divided into four presentations, corresponding to the first, second, fourth, and fifth of Baudelocque, the third and sixth of that author being rejected by Professor Carus, as they have been by Capuron, and several other accoucheurs who have written since the time of Baudelocque. The following arguments in favour of the propriety of this rejection, have been urged by Capuron.*

"1st. The presentations in question are exceedingly rare. 2d. Because, during labour, the rounded projection of the sacral protuberances will not allow either the vertex or forehead, also rounded, to remain long in the same situation, but inclines the head to one side or the other, and brings it to one of the four presentations. 3d. Because the labour is never natural where one of these presentations exists, unless the pelvis should be unusually capacious or the head of the child preternaturally small. 4th. Because, when under such circumstances the case presents any difficulty, we are always obliged to change the position to some other."

These arguments we consider very satisfactory. We shall not, therefore, dwell upon the subject, but pass on to the consideration of the second order of labours, or those in which the forehead presents.

The synciput, like the vertex, may present in four different positions, corresponding, in the main, as regards the direction of the body of the child, with the four occipital presentations above alluded to, from which indeed they are said by the author to differ only in the greater separation of the chin of the child from the breast; cases of this kind are very rare, and always render the labour more difficult.

The third order of labours, according to the arrangement laid down, includes those cases in which the face presents. In labours of this order, the chin of the child is separated still more from the chest, and the head is, consequently, thrown much more backwards. But notwithstanding such a position tends to retard the progress of the labour, delivery may be accomplished, when it exists, as well as under the circumstances detailed above, by the unassisted efforts of nature. For this reason it is, that all the presentations of the head have been considered as coming properly within the class of natural labours. The several varieties of the presentations of the face are referable to the same type as those of the forehead and occiput, and do not require to be particularly designated.

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* Traité d'Accouchemens, Paris, 1824, p. 220.

II. *Labours in which some of the Inferior parts of the Body present.*—The different forms of labour which fall under this class are considered as natural, although they are always completed with much more risk to the child. They are divided into three orders, according as the feet, the knees, or the breech presents; and each of these parts may exhibit four varieties or presentations, similar to those pointed out above, as characterizing the presentations of the head and face. This being the case, it is unnecessary that we should describe these particularly; nor do we propose to say any thing relative to the management of the different forms of labour which have been mentioned, as the rules laid down by our author, do not differ in any important particular from those usually inculcated.

III. *Physiological History of the Puerperal State, or Period of Lying-in.*—We have already considered the several changes which attend the act of conception, the development of the fœtus, and its final expulsion from the cavity of the uterus, to be thrown upon its own resources, and commence, as it were, a new existence. We have still to examine the peculiarities of the child-bed state, together with those which appertain to the period of nursing.

In entering upon this part of our subject, we are met by several important subjects of consideration, which we shall endeavour to examine in the order pursued by our author.

These peculiarities consist in certain changes taking place either in the system of the woman generally, or in some of its parts.

1. *Of the Changes which take place in the Sexual Organs.—a. Uterus.* Of all the organs in which these changes occur, the uterus, perhaps is affected in the greatest degree. From the time at which the expulsion of its contents is accomplished, a rapid diminution of volume takes place, and at the expiration of twenty-four or forty-eight hours, it does not measure more than about six inches in length by four in breadth, and can only be felt projecting slightly above the level of the symphysis pubis, in form of a small rounded ball. Still continuing to diminish, at the expiration of from four to six weeks, it will be generally found to have returned to the condition

which is natural to it in the unimpregnated state. With regard, however, to the promptitude with which this contraction and diminution of the volume of the uterus takes place, much will depend upon the number of children the woman has borne, the elasticity of the organ being always greater, after the first child, than at a subsequent period, and it will, consequently, resume more rapidly its natural state. Professor Carus does not ascribe this diminution of volume merely to the contraction of the organ, but also to an absolute diminution of its substance, which he considers is augmented during the period of gestation. Upon this point he is unquestionably correct, though some accoucheurs of distinction have advocated a contrary opinion.

The outer configuration of the uterus undergoes changes not less considerable. Immediately after delivery it becomes more flattened, and the vaginal portion gradually becomes more prominent, so that, at the expiration of ten or twelve days, it usually measures about the fourth of an inch, and still continuing to increase, at the end of six weeks it generally measures about three-fourths of an inch, and finally resumes the condition it presented before conception.

While these changes are taking place externally, the inner surface of the uterus is undergoing others still more striking. For some time after the delivery of the child, and the detachment of the placenta, numerous small veins open by patulous mouths upon the inner surface of the organ, from which a reddish-coloured fluid is constantly poured out, which is designated red lochia. In proportion, however, as the uterus contracts, these orifices diminish in size, and the sanguineous character of the fluid becomes changed into a kind of serous fluid, tinged of a reddish colour, similar to water in which fresh meat has been washed, constituting what is called serous lochia. The same causes continuing to operate, the discharge finally becomes colourless, and assumes more of the mucous character, and is hence designated white lochia, which continues in most cases until the end of the fourth or fifth week, or even longer, and finally disappears.

Professor Carus makes an observation upon this subject, the truth of which our own experience has fully confirmed—that those women who do not nurse their offspring, generally have the lochial discharge much more profuse than those who do. The reason of this is, that nature adopts this means of throwing off those nutrient materials which, during utero-gestation, were expended upon the growth and development of the fœtus, and which, after delivery, should be still subservient to its nourishment, in form of milk, elaborated by the mammæ. It is in virtue of the same law, that the woman, when she does not nurse, generally has a return of her menstrual flux a short time after delivery; whereas, if she were to afford the natural sustenance to her child which it is ordained by nature it should receive, the action of the mammæ would become, as it were, vicarious of that of the uterus, and the secretion of milk would prevent the recurrence of the menstrual flux until several months after delivery.

The action of the uterus presents several phenomena after delivery, which are worthy of observation—as its agency in expelling the fragments of membrane and clots of blood which remain; the contraction or corrugation of its substance, &c. These are sometimes attended with results which are purely mechanical, as is exemplified in the pains which result from the contraction of the uterus upon the substances enumerated above, constituting what are called after-pains. These generally continue longer where an individual has had several children, because the uterus being less elastic than after a first delivery, does not contract with so much promptitude, and consequently takes a longer time to expel its contents, and resume its natural condition. When these contractions are feeble, from a want of energy in the fibres of the uterus, it is not unusual for these pains to continue from six to nine days.

For a short time after delivery, the uterus remains somewhat above the pubis, but it gradually subsides within the pelvis, until its mouth descends even lower than it was before delivery. From the influence of the ligaments, the fundus is thrown more forwards, and the mouth backwards.

C. *The vagina* and external parts present considerable turgescence, and the rugæ of the former are partially or completely effaced. These conditions usually continue until about the end of the third or fourth week, at which time the parts gradually resume their former condition.

The mammæ also undergo a very remarkable change after delivery, manifested by the secretion of milk, which, after it is formed, becomes substituted, as it were, for the materials which were for a time thrown off in form of the lochial discharge. The turgescence of the mammæ, which generally exists to a certain extent during the whole term of pregnancy, now becomes more considerable; a thin watery milk is secreted, which, from its peculiar properties, has been denominated *colostrum.* It resembles at first the liquor amnii which, in the fœtus in utero, occupies the alimentary canal, but it afterwards becomes transformed into a thick, rich milk. This change in the secretions of the mammæ generally takes place about the third or fourth day, and is accompanied with a slight sensation of chilliness, succeeded by considerable heat of the skin, and finally a free perspiration, constituting what is usually called *milk fever*.

The following are the properties which, according to Professor Carus, should characterize good, healthy milk:—

> "It is of a fine white colour, inclined somewhat to blue; and when it has been allowed to accumulate for some time, the last portion which is drawn generally presents a shade of yellow. It is thicker than water, so that when a drop is placed upon the thumb nail, it does not flow off, but remains adherent to its surface. When dropped into pure cold water, it does not dissolve uniformly, but the more oily particles float near the surface, while the others subside towards the bottom of the vessel. It is destitute of smell, and is sweet and pleasant to the taste."

To the changes which have been enumerated must be added some which affect the system more generally. During the whole term of utero-gestation the uterus has its vital properties greatly exalted; its blood-vessels become very much enlarged, and its veins are distended with blood. As soon however as the child is delivered, and the uterus contracts, these vessels must return to their natural condition, and the blood which had accumulated in the veins, is consequently thrown suddenly, as it were, upon the general system. This often excites a considerable degree of plethora, determines to other organs, and often proves a cause of serious disease. In the lungs, especially, we often meet with very formidable results arising from this cause. Before delivery the diaphragm is forced upwards, so as to encroach upon these organs, and prevent their full play; but when the distention is removed from the abdomen, their condition becomes changed, so as to admit of their vessels becoming distended by an increased determination of blood; and when the patient is affected with tubercles, we not unfrequently see all the symptoms of phthisis rapidly developed. The skin too often becomes feverish and dry, or covered with a profuse acid perspiration, attended in many cases with an abundant eruption of small miliary papillæ. All these conditions arise from the irregular determinations occasioned by the sudden destruction of the acquired equilibrium of the circulation. To the same cause must be ascribed the development of puerperal fever, in consequence of the onus of the circulation being thrown upon the delicate vessels of the intestines and peritoneum, subsequent to their being deprived of the support afforded by the pregnant uterus.

The changes which the body of the new-born child undergoes compared with its condition before birth.—The most important alterations which takes place in the condition of the child after birth, are those which have reference to the new circumstances which it has to encounter, and the independent existence which it has to maintain, subsequent to its expulsion from the uterus.

Before birth, the nourishment destined for the sustenance of the fœtus, is pumped up, as it were, by the radicles of numerous vessels, partly from the placenta, and in part, according to some, from the liquor amnii. When, however, the connexions between the fœtus and the mother become broken up, by the detachment of the placenta, and the consequent destruction of its circulation, it can no longer receive a supply of nourishment from this source, and an apparatus becomes necessary to prepare that which it subsequently receives from without, for the important office it has to perform. This apparatus consists of a tortuous tube, which now becomes affected with a kind of peristaltic motion, in virtue of which, the new nourishment, consisting of milk, introduced into it, is gradually moved through it, is thoroughly digested, and its particles are exposed to the mouths of the absorbent vessels, by which they are taken up, and conveyed into the circulation. It is at this period that the peculiar substance called meconium, which accumulates in the alimentary canal during the development of the fœtus, is thrown off, that the stomach becomes gradually distended by the new aliment, and the differences between the several portions of the tube become more fully developed.

The nutritive fluids circulating in the vessels, are conveyed to the lungs, there exposed to the decarbonizing influence of the air, and become more highly animalized—thus giving rise to a difference between the arterial and venous blood, which does not exist in the fœtus. Coexistent with these changes, others take place in the organs themselves. The umbilical arteries and veins become obliterated: the communication previously existing between the right and left side of the heart, through the foramen ovale, is rapidly effaced; the ductus arteriosus is closed, and the heart, at first placed nearly in the middle of the chest, becomes inclined more and more towards the left side, in consequence of the greater magnitude of the right lung. The thyroid and thymus glands are large in proportion to the lungs. The skin passing suddenly from a moist into a dry medium, is irritated by the influence of the atmospheric air, and assumes a red colour, which generally continues until about the fifth or sixth day, when it ends in a kind of desquamation. It, as well as the glands, begin to secrete; saliva is elaborated by the glands which are destined for that office; the bile becomes thick; and the kidneys pour out urine, which, however, contains at first only a small quantity of phosphoric acid.

The sphere of animal life also presents changes of considerable importance. The eyes are opened, and exposed to the stimulating influence of light—the cavity of the tympanum, occupied by a kind of mucous fluid, gradually becomes empty, by that fluid passing through the Eustachian tube, and the child by degrees becomes conscious of sounds. The skin acquires its tactile power; the nose the faculty of smell; and finally, the tongue becomes sensible to the impression of sapid bodies.

The brain and nerves are, at first, soft, and consequently feeble in their manifestations of power. The former rises and falls synchronously with each act of respiration. Consciousness by degrees shows itself in an obscure movement of the lips, but still a great portion of this infantile existence is spent in sleep. The powers of motion unfold themselves, in proportion as the muscular fibres are invigorated, by their gradual increase of development, and the full establishment of the respiratory process:—and finally, the conjoined operation of this motility and respiration, gives rise to the formation of voice, which at first unintelligible, afterwards acquires all the attributes of artificial language.

These are the principal changes which take place in the economy of the child, immediately after birth. Some of them are accomplished within a short space of time, while others require a longer period for their consummation; and it is for this reason, that so many children perish, while they are passing through the several mutations which have been designated.

"According to recent researches made by QUETELET and LOBATTO, it appears, that out of 20,975 children born within the space of six years, 1044 died within the month—390 in the course of the second month—231 in the third—185 in the fourth—156 in the sixth—162 in the seventh—152 in the eight—140 in the ninth—153 in the tenth—142 in the eleventh—140 in the twelfth—total, 3051. Thus giving a considerable preponderance of mortality, during the earlier months."

In the succeeding chapter, the author makes some very pertinent remarks, relative to the general conduct, and management of women during pregnancy, and immediately before delivery. Through these, we cannot follow him, but will observe, that they embrace the usual precautions for preserving health, preparing the patient in the best possible manner for a prosperous delivery, and nursing her offspring. Nor shall we make any remarks upon the rules which he has laid down to be observed in the management of natural labour.

Pathology and Therapeutics of Labour.—In considering those means which are resorted to by the accoucheur, with a view of accomplishing delivery, we must divide them into those which are preparatory to the accomplishment of that event, and those by which it is effected.

"Of the first, are 1, the artificial dilatation of the mouth of the uterus; 2, the rupture of the membranes; 3, the correction of any mal-position of the child, by turning, or otherwise. To the second must be referred 1, the artificial delivery of the child, without mutilating, or breaking it down; *a*, by extraction by the feet; *b*, by delivering the head, by means of the forceps; 2, delivery of the child by mutilating its body, or breaking down the head, (*Excerebratio, vel perforatio,*) or by breaking down the trunk; 3, extraction of the child, through an artificial opening, or by artificially enlarging those which are natural; *a*, by an incision made through the parietes of the abdomen and uterus, (*Cæsarean section;*) *b*, by incising the parietes of the abdomen alone, (*Gastrotomy;*) *c*, by augmenting the diameter of the pelvis, by separating the symphysis, (*Synchondrotomy.*)

"II. Artificial delivery of the after-birth; *a*, by detaching the placenta from the uterus; *b*, by extraction of the secundines.

"III. Forced delivery, by opening the mouth of the uterus, rupturing the membranes, extracting the child, and detaching and withdrawing the placenta, (l'Accouchement Forcé of the French.")

Before we enter upon the special consideration of these several processes, it will be useful to detail the rules which are laid down by Professor Carus to be observed, in relation to operative obstetrics. These are—

"1. No operation should be undertaken, until we have ascertained, by a careful examination of both the external and internal parts, the precise nature of the difficulty with which we have to contend, and the particular indication to be fulfilled. Nor should the accoucheur trust, under such circumstances, to the report of the midwife, or any other person, but make the examination himself at the time.

"2. No operation should be resorted to, when from previous information, we know that the difficulty is not so great but that it may be overcome by the natural efforts, by the assistance of medicine, or by changing the position of the presenting part.

"3. The accoucheur should consider well the important difficulties which attend his patient during labour, and should not exhibit any wavering doubts, but constantly evince the most lively interest for the well-being of both the mother and child.

"4. The woman should not be delivered by a false prognosis, but the possibility of an unfortunate issue should be candidly stated, both to herself, and those about her. This will be especially necessary when the death of the child is already suspected, or when a midwife or other accoucheur have been in attendance, and there is reason to suppose that either the mother or child have sustained some injury.

"5. When it is possible to accomplish our object by means of the hand, it should always be preferred to the use of instruments, as it is far less dangerous to the mother; and in the use of instruments, those should be selected which occasion least pain.

"6. Whether we employ the hand or instruments, their temperature should be brought to that of the mother, and before they are introduced they should be carefully oiled.

"7. Delivery should never be attempted when the woman is in 'articulo mortis,' except in those cases in which there is a prospect of doing something for either the mother or child."

Preparatory Measures.—1. *Artificial Opening of the Os Tincæ.*—The mouth of the uterus may be either partially or completely dilated, either by the introduction of the hand or some appropriate instrument. The objects of the operation are various. The mouth of the uterus may become so closed by disease as to render it impracticable for the head of the child to pass without the assistance afforded by an artificial dilatation; it may also become necessary, to enable us to rupture the membranes, turn the child, deliver the after-birth, &c. Great caution, however, is requisite, even under these circumstances, in resorting to such an operation, inasmuch as the application of force to the *os tincæ*, in its rigid and unyielding condition, cannot fail to give rise to mischievous consequences. As a general rule, therefore, we are not to resort to the artificial dilatation of the mouth of the uterus until the parts have become relaxed and yielding. Nothing can be more improper than attempts made to force open the os tincæ, with a view of facilitating the passage of the presenting part of the child.

When we determine upon the performance of the operation, our author recommends several preparatory measures to be resorted to, with a view of putting the parts in a condition to yield more readily. These consist of such means as are calculated to diminish the irritability of the circular fibres of the uterus; as emollient and narcotic injections—a mixture of milk and oil administered by the same process —the same with laudanum, warm bath, the internal use of antispasmodics, as a few drops of tinct. opii with an infusion of valerian, &c. From the efficacy of belladonna in dilating the pupil of the eye, it has been proposed to apply it to the mouth of the uterus, with a view of securing a similar result from the influence of its operation upon that organ. For this purpose, Chaussier employed a wide-mouthed syringe, with which the substance could be applied immediately to the part. Others have recommended, with the same object, the employment of an opiate cerate, the oleo hyoscyami; but it is extremely questionable if any of these applications are more beneficial than those of a simple emollient character.

Having waited until the parts have become soft and yielding, the patient is to be placed in a convenient position, and in such a situation as to relax the muscles as much as possible. The right, or left hand of the accoucheur, according to circumstances, is to be cautiously insinuated, commencing first with the tips of the fingers, and by gentle perseverance, finally introducing the entire hand; always taking care to place the greatest diameter of the hand, in the direction of the greatest diameter of the pelvis.

In some cases, when the muscular fibres are yielding, the hand can be introduced without much difficulty. But frequently we shall be obliged to fatigue the fibres of the uterus by the cautious application of force, until they are made to yield.

When the mouth of the uterus has become partially or completely closed by disease so as to preclude the possibility of the child passing; the only means of relief which can be afforded by the accoucheur, is to open the part to a sufficient extent by means of one or more incisions. These will allow the mouth of the uterus to dilate, and enable us to effect the delivery of the child. Several instruments have been invented for this purpose as OSIANDER's *Hysterotome*, COUTOULY's *Utero-Stomatome*, &c. but a simple bistoury will answer every purpose. It will be useful, however, to use a speculum, so as to protect the surrounding soft parts.

Various means have been invented for the purpose of dilating the mouth of the uterus, in those cases, in which, from previous organic disease, it is not disposed to yield to the pains of labonr. Few of them, however, are calculated to meet the end proposed, inasmuch as they exercise their principal force upon the vagina; while the sponge tent recommended in SIEBOLD's Journal für Geburtshülfe is too tardy in its operation. Were such a procedure justifiable, the forceps of Osiander would be the most convenient instrument for the purpose. We are disposed, however, to doubt the propriety of such an operation, and would enter our protest against it, under all circumstances. We believe that a large bleeding from the arm, as a general remedy, is the best possible *dilator* of the os uteri, as well as that of the vagina.

2. *Rupture of the Membranes.*—The artificial rupture of the membranes is of extensive application in the practice of the obstetrical art. It is not only resorted to when it becomes necessary to turn the child, or to apply the forceps, but also in some cases of hæmorrhage, puerperal convulsions, and likewise when from previous knowledge of the dimensions of the pelvis, we know that it is so much distorted

as not to allow a full-grown fœtus to pass, and where it consequently becomes necessary to induce premature labour at the end of the seventh month, as suggested by Kelly and recommended by Denman. We shall not detail the method of performing the operation, as it is so exceedingly simple as to require no particular description. In most cases, the tip of the finger will be the only instrument necessary. But when the mouth of the uterus is not dilated, we may employ a common male catheter, as practised by the English accoucheurs, or a pair of small forceps, as recommended by Wiedemann, Carus, &c. or the instrument of Osiander.

3. *Turning and Delivering by the Feet.*—There is perhaps no part of the obstetric art which deserves a more attentive consideration from the accoucheur than the operation of turning the child. It is not only necessary in all cases in which, from mal-position, the child cannot be delivered by the natural efforts, but also in certain cases of emergency, in which it becomes necessary to accelerate delivery, as in dangerous flooding, violent convulsions, &c. Whether it be resorted to with the one or the other of these intentions, the operation of turning is always fraught with consequences which are serious to the mother, as it not unfrequently becomes a cause of inflammation of the uterus, peritoneum, and other adjoining parts, and may give rise to puerperal fever and many other formidable maladies. Nor is it entirely safe to the child; for it is liable to have its bones broken or dislocated, or to receive other injuries of a serious character. The operation is most easily effected when it is resorted to before the waters have been allowed to escape, where the os tincæ is well dilated, and yielding, and where the woman has borne several children. Under other circumstances it is always attended with much difficulty; and when the waters have already escaped, the uterus is firmly contracted upon the body of the child, and is rigid and irritable, great precaution will be requisite, and the operation cannot be accomplished, except at the expense of great difficulty, and even hazard to the mother.

In resorting to the operation of turning, the preparatory steps are the same as those which are requisite when we wish to dilate the mouth of the uterus. The most convenient position is on the back, with the breech drawn to the edge of the bed, while the head and shoulders are elevated; or a birth-chair may be employed, as is the practice with the Germans.

"1. It is of the greatest importance, before we resort to the operation, to ascertain, by a careful examination, both the position of the child, and the dimensions of the pelvis, as without an acquaintance with the first, we cannot accomplish our end; and any considerable deformity of the pelvis would render the operation improper. For this purpose, the woman should be examined in different attitudes, so as to make the head of the child descend.

"2. The woman should be informed of the objects and necessity of the operation. But great circumspection should be observed in communicating to her the prognosis.

"3. As in a case of natural labour, the rectum and bladder should be evacuated before the operation is resorted to.

"4. The ordinary apparatus employed in cases of natural labour should be at hand, and in a state of readiness, especially those means which are employed to resuscitate a still-born child. It will be well, moreover, in extraordinary cases, to be provided with a pair of forceps, a couple of Smellie's blunt hooks, and one or more fillets to confine a leg or arm which may present.

"5. In those cases in which the waters have escaped, and the uterus is firmly contracted round the body of the child, it is recommended to endeavour to overcome the force of its contractions, and to subdue inflammation, where it exists, by means of warm, antispasmodic fomentations; flannels wrung out of a decoction of hyosciamus, chamomile flowers or valerian, and applied to the parts; and by administering internally the essence of valerian, in small doses, combined with tinct. opii, or the liq. cornu cervi. When there is great dryness and tenderness of the external parts, mucilaginous injections composed of flaxseed mucilage, oil, &c. may be employed with advantage. Should there be considerable tenderness of the abdomen, hot, dry skin, and other strong evidences of a general febrile condition, it will be proper to resort to the general and local abstraction of blood, and other means of subduing inflammation.

"6. The accoucheur should always determine, from the position of the child, with which hand he can most readily reach the feet. In most cases in which the feet are situated in some part of the fundus of the uterus, that hand will be found most convenient which corresponds to the side on which the feet are supposed to be placed. But where they are only slightly removed from the mouth of the organ, and when the waters have already escaped, either hand may be employed."

Every thing being thus arranged, the hand, previously oiled, is to be cautiously insinuated between the labia pudendi in the direction of the axis of the inferior outlet of the pelvis, the fingers being arranged in a conical position. When the hand is fairly engaged in the vagina, the back should be directed towards the hollow of the sacrum, while, with the tip of the finger, the accoucheur is to rupture the membranes, taking care at the same time that too much of the liquor amnii does not escape—or if sufficient space exists between the amnion and the parts surrounding it, to admit the hand, it will be better to pass it in that direction, until the feet are felt, and to rupture the membranes at that point, and turn the child. In passing up the hand, seizing the feet, and bringing them down, great care should be taken to give the body such a degree of inclination as will bring it to the first or second presentations. In some cases it will be impracticable to bring down the feet, and we shall be obliged to content ourselves with bringing down the knees, and finishing the labour as in a knee presentation.

When an arm has already protruded, and it becomes necessary to turn, it is recommended by many accoucheurs to confine the presenting part by means of a fillet. Professor Carus very justly objects to this procedure, on the ground, that by confining the arm, we prevent it from returning during the revolution of the child, which he affirms it will do, in a majority of cases, if left at liberty.

4. *Turning the Head.*—From the mechanism of the passage of the head of the child through the pelvis, it must be manifest, that it can only be turned before it has become fairly engaged in the lesser pelvis, when the waters have not escaped, or when they have only been discharged a short time. As, therefore, the operation is of important and extensive application, especially in mal-presentations of the head, of the neck, ear, chest, shoulder, &c. the accoucheur should always be careful to ascertain the nature of the presentation before the labour has advanced so far as to render it impracticable to correct it.

In resorting to this operation, attention should be paid, 1st, to the situation of the patient, so as to place her in a position which will be most likely to favour the accomplishment of our object—when, for instance, the head is inclined to the right side, the woman should be placed on that side, and vice versa, because by doing so, we favour the descent of the head into the pelvis; 2d, when the obliquity of the head prevents it from descending, the finger of the accoucheur should be fixed upon some part of it, so that by properly directed pressure, it may be made to revolve upon its axis, and assume the direction which it does in a case of natural labour. In some cases where the mouth of the uterus is fully dilated, and the waters are not evacuated, if we have a mal-presentation to contend with, the presenting part should be pushed up with the hand, so as to allow the head to descend. This simple procedure will obviate the necessity of bringing down the feet, even in cases where the back presents, as happened in an instance reported by Professor Osiander, (Grundriss der Entbindungskunst, 2 Theil. § 36,) and our author mentions a case in which the breast and one arm presented, yet by pushing them up the head descended, and the child was delivered in the natural way. It is, moreover, in some of the cases under consideration, that the vectis or lever, or even a single blade of the forceps, may be employed in rectifying the presentation of the child. To use the instrument the woman should be placed in the position already recommended; the index and middle finger should be passed up to serve as a guide, and to protect the soft parts, and the instrument, previously warmed and oiled, held like a writing pen, should be cautiously conducted upon the fingers to the part which it is our object to rectify. When the instrument is fixed upon the head, great caution must be observed in the operating with it, not to make a fulcrum of the soft parts of the mother, but to sustain the force with one hand. In some cases it will be requisite to push up the forehead, or some other part with the finger, while the occiput is brought down with the lever.

Professor Carus enters next upon the consideration of delivery by the feet, and lays down, with great clearness, the rules to be observed in the management of such cases. We cannot follow him through all these, but shall confine ourselves to the part which has reference to the delivery of the head.

In delivering by the feet, the facility with which the head will pass, will depend mainly upon the direction given to the child during the delivery of the shoulders. It should always be the object of the accoucheur to give the body of the child such a turn as will enable the head to enter the pelvis with its long diameter placed in the direction of the long diameter of the pelvis, and after it has entered that cavity, to allow it to revolve upon its own axis, in such a manner as will bring the occiput behind the pubis, while the forehead is directed to the hollow of the sacrum. This much accomplished,

"The accoucheur supports the body of the child upon his arm, the hand of which was employed in supporting the perinæum during the passage of the shoulders, and introduces two fingers of the same into the vagina, which he fixes upon the chin, in such a manner as to depress it upon the breast; and elevating at the same moment the body of the child, he enables the long diameter of the head to pass out in the direction of the axis of the inferior strait.

"If from the difficulties of the case, the head cannot be delivered by this manipulation, and it has already descended into the pelvis, the forceps must be promptly applied, inasmuch as if the head be allowed to remain in that situation for only the space of five or ten minutes, the life of the child will be lost. Should, however, the head be still too high to admit of the application of the forceps, or should there exist indubitable evidence of the death of the child, the index finger of the accoucheur, or the blunt hook of Smellie, should be introduced into the mouth of the child, and the head thus delivered. This procedure must not be adopted, however, when the child is still alive.

"When, from neglect, or mismanagement, the head presents in such a manner, that the chin is placed above the symphysis pubis, and the occiput against the sacral protuberance, the head cannot be easily delivered, and if suffered to remain, the life of the child will be inevitably lost in consequence of the compression of the cord. The long diameter of the head being five inches, and the conjugate diameter of the pelvis four, it follows, that delivery cannot be accomplished, except by changing the relative condition of the presentation, so as to make the long diameter of the head correspond with the long diameter of the pelvis. To accomplish this, the accoucheur should examine to which side the head may be inclined with the greatest facility, and incline the chin in that direction, by the application of the finger to some part of the head. The body of the child should be entrusted to an assistant; the index and middle finger introduced into the vagina, should be fixed upon the upper jaw, or when the child is dead, in the mouth, and the face should, in this manner, be inclined to one side, so that the head may be delivered in the manner directed above.

"When circumstances are still more unfavourable, and the head of the child has been severed from the trunk, and remains in the cavity of the pelvis, its delivery must be accomplished, either by the application of the forceps, or the introduction of a blunt hook into the foramen magnum, by introducing the finger into the mouth, or when all these fail, by breaking down the head."

Delivery of the Head of the Child, by the application of the Forceps.—It has been supposed, that forceps similar to those employed in the practice of midwifery, were known to Avicenna. It is questionable, however, whether the instrument described by him was not of a different kind, and employed for different purposes. The probability is, that the midwifery forceps were first invented by the Chamberlains, about the end of the seventeenth century. Since that time, they have been much employed, and have undergone various modifications, to suit the whim of particular individuals. At present, the forceps employed may be referred, for the most part, to three heads: the short, the long, and the forceps with unequal blades. The following properties, according to our author, should be possessed by the forceps which we employ in the practice of midwifery. 1. They should be constructed of the best steel, and should be of the best possible workmanship, finely polished, and perfectly free from every thing which could injure either mother or child. 2. The blades should have a curve to correspond with the convexity of the child's head, and when closed, should have a space between them, at the point at which they are furthest removed from each other, of about two and a half inches, and the ends where the forceps are closed, should be separated from one-fourth to one-third of an inch. 3. They should also have a curve to correspond with the outlet of the pelvis, and should be long enough to reach to the upper part of the small pelvis. Thus the height of the pelvis being four inches and a half, and the long diameter of the head of the child entering it in the direction of the axis of the superior strait, it follows that the forceps must be long enough to embrace the head before it has fully descended into the pelvis, and consequently, that the blades should be *ten* inches in length. Professor Carus employs forceps, the blades of which are of the length here designated, but in some few cases he uses others, the blades of which are from an inch, to an inch and a half longer.

> "4. The instrument should be light, and so constructed as to render it of convenient employment, so as to enable the accoucheur to follow every motion of the child's head, and to prevent them from slipping. 5. The lock, in the one blade, should be so constructed as to accurately embrace the other, and to admit of their being easily adjusted or separated. These properties are possessed by the lock of Smellie's forceps, when properly constructed. 6. The blades of the forceps, as well with a view to diminish their weight, as to admit of their easy application to the head of the child, should each present an oblong fenestrum, extending in a longitudinal direction. 7. The handles should be so formed, as to enable the accoucheur to maintain a firm and fixed hold upon them; and to avoid the inconvenience of steel handles, they may be covered with leather as far as the lock, as is the case with the forceps of Boer. 8. The length of the handles should not exceed what is merely sufficient to enable them to be handled conveniently, which will be about five inches and a half. A greater length than this, will render them inconvenient."

We are next to consider the circumstances which call for the employment of the forceps. According to Professor Carus,

> " *They are called for in all cases, in which, in consequence of some fault, either on the part of the mother or child, or both at the same time, a prompt delivery of the child, and especially its head is necessary, and when this last has descended low enough in the pelvis, and is placed in such a position as to enable the labour to be accomplished by means of the forceps, without injuring either the mother or the child.*"

There are several circumstances which render the application of the forceps necessary; as alarming hæmorrhage, convulsions, pressure upon the cord, inefficiency of the labour pains, inflammation of the parts from pressure, slight contraction of the pelvis, a general enfeebled state of the mother, or child, &c.

Before the forceps can be applied, the head must be partially or completely engaged within the cavity of the pelvis, otherwise we cannot secure it, even with the long forceps, because, as our author correctly observes, the situation of the head above the pelvis, does not correspond with the line of the axis of its superior strait, and in some cases it even projects considerably beyond the linea ileo-pectinea. If therefore, under these circumstances, the position of the head cannot be so changed as to enable the head to enter the superior strait, the forceps cannot be applied, and the child must be turned, and delivered by the feet, if the circumstances of the case call for prompt interference.

The following conditions are laid down by the author as contraindicating the employment of the forceps.

"1. When the mouth of the uterus is not dilated. 2. When the membranes are not ruptured. 3. When the head is not engaged in the pelvis. 4. When a disproportion exists between the size of the child's head and the diameter of the pelvis, whether this depends upon an inordinate enlargement of the head from hydrocephalus or other causes, or where there is so great a distortion of the pelvis as to render it impossible to deliver except by breaking down the head. 5. When the head is inordinately small, as in cases of premature labour, or when it has been rendered so by artificial means.

"The prognosis, in forceps cases, is generally favourable, as regards both mother and child. 1. In proportion as the danger is not urgent which renders their employment necessary. 2. When the pelvis is well-formed. 3. When the head has descended low in the pelvis. The operation is more difficult and the prognosis less favourable, 1. When the pelvis is very narrow. 2. Where the presentation of the head is not natural. 3. Where the breech presents. 4. When some other part of the child, especially the umbilical cord, descends with the head. 5. When the labour has been protracted. And 6. Where the case is attended with other dangerous complications, as hæmorrhage, convulsions, inflammations, &c."

When it becomes necessary to resort to the application of the forceps, all the usual apparatus which is employed in a case of labour, should be at hand; the rectum and bladder should be previously evacuated, the woman placed in a convenient position upon her back, and the forceps warmed and carefully oiled.

"The accoucheur introduces the index and middle fingers of his right hand, previously oiled, into the vagina, until he reaches the head of the child, while with the left hand, he takes the female blade of the forceps, which he holds like a writing pen, and conducts it upon the two fingers of the right hand into the vagina and uterus, until it passes so far upon the head of the child, that the curvature of the blade can adapt itself accurately to the curvature of the head, and have a fixed point of support in the direction of the axis of the pelvis. The woman should, during this procedure, remain perfectly tranquil, should not encourage the pains, and when they do come on, the accoucheur should wait until they subside.

"The female blade being in this manner introduced and fixed upon the head, is to be confided to an assistant, while the accoucheur proceeds to introduce the male blade of the instrument. To accomplish this, it is to be taken in the right hand, in the position above pointed out, while the two first fingers of the left hand, well oiled, are to be passed into the vagina up to the left side of the pelvis, until they are fixed upon the head of the child, and upon them the instrument is to be passed up, as already directed, until the curvature of the blade becomes fixed upon the head. It is then to be placed in the direction of the head, corresponding with that in which the first was placed, and the two carefully adjusted by adapting the locks with each other. Having fixed them properly in this manner, the accoucheur proceeds to deliver, by attending to the usual rules of applying the force in the direction of the axis of the strait of the pelvis, through which the head is passing, allowing the instrument to follow the several evolutions performed by the head during its passage, to guard against the slipping of the forceps by using a kind of zigzag motion, in a direction to answer to that in which they are applied, and finally, supporting the perinæum."

Perforation of the Head, and evacuating the Brain, (Perforatio, Excerebratio.)—In some unfortunate cases, in consequence of a considerable disproportion between the size of the head and the dimensions of the pelvis, it will be impossible to deliver by any of the procedures which have been pointed out, and it becomes a question about saving the mother, either by diminishing the volume of the head by means of cutting instruments, or extracting the child by the Cæsarean operation. But as the Cæsarean section is always attended with great hazard to the mother, and as in cases where the child is already dead, it may be delivered by diminishing its volume, and without endangering the mother, it is preferable, under these circumstances, to resort to the operation of perforating the head, provided the diameter of the pelvis is large enough to allow the child to pass after this mutilation. It is true that some accoucheurs have allowed the operation in question a much wider range; and Osborn even went so far as to recommend, that in all cases in which the conjugate diameter of the pelvis is not more than an inch and a half, delivery should be effected by the crotchet, even at the expense of the life of the child. Such a practice, although supported by such good authority, cannot fail to strike every feeling mind with horror, and every friend to human nature must lament the direful consequences to which it has given rise. True it is, that when it becomes necessary to sacrifice the life of either the mother or child, there can be but little difficulty in deciding which should be preserved, yet the head of a living child is not to be broken down, and mutilated, while it is struggling with agony, under the influence of our instruments. The indications which call for the perforation of the cranium are, according to our author, the following:—

> "Where the disproportion between the volume of the head and the dimensions of the pelvis is so great, that the former cannot pass through the latter, without being diminished in size, or without endangering the life of the mother."

With regard to the time at which it should be performed much will depend upon the nature of the cause which renders it necessary. Where, for instance, the difficulty consists of an accumulation of water within the head, and is of a nature not to be overcome by any other means, as soon as the mouth of the uterus has become dilated, and the waters are discharged, so as to fix the head, the water may be let out by means of a trocar. But when we have a distorted pelvis to contend with, the operation must be deferred, according to our author, until, from the nature of the circumstances, we are well assured of the death of the child. Nor are we to resort to it even under these conditions, until we are convinced that the child cannot be delivered by the hand or the assistance of the forceps. It is fortunately an operation but seldom called for; so much so indeed, that Professor Carus observes it was only indispensable in one instance out of one thousand births at Dresden. For the method of performing it we must refer to the ordinary elementary works on midwifery, as the details contained in the work before us, do not present any thing which is not to be found in them.

Our author next goes on to the consideration of the Cæsarean operation, synchondrotomy, forced delivery, &c. upon each of which his remarks are valuable, though they present nothing of novelty. The same is true of the remaining part of the work, devoted to the consideration of the special pathology and therapeutics of labour. As, therefore, it is extremely difficult to render an analysis of a work like the present, which is purely elementary, interesting to the majority of readers, and as we have already reached our limits, we shall be obliged to forego the pleasure of making any further remarks upon the subject.

We cannot, however, take leave of the subject, without expressing the high degree of pleasure which we have experienced in the perusal of the work under consideration. While we are free to confess that we consider the arrangement somewhat confused, we must do the author the justice to state, that as an elementary treatise on gynæcology, we consider his work possesses a high degree of merit, and is well adapted to the wants of the class of individuals for whom it was especially intended. Nor are we singular in this opinion, as the public voice has already spoken so favourably of it, that it has, in the space of a short time, passed through two editions.

E. G.

BIBLIOGRAPHICAL NOTICES.

XVIII. *Die Krankheiten des Gehoerorganes. Ein Handbuch zum Gebrauche seiner Vorlesungen.* Von KARL JOSEPH BECK, der Arzneiwissenschaft Doctor, Ordentlichen Professor an der hohen Schule in Freiburg, und mehrerer Gelehrten Gesellschaften Mitgleide. Heidelberg und Leipzig, 1827.

Manual of Diseases of the Ear, &c. By KARL JOS. BECK, Doctor of Surgery, &c. 1827.

The diseases of the ear, though always constituting an important item in the catalogue of human maladies, have only within a short time attracted any considerable share of attention. True it is, that we have some remarks upon these diseases, even as far back as the earliest periods of the science, yet they contain but little that is important or interesting, and it is only within the last century, and especially within the last twenty years, that much valuable matter has been collected relative to these subjects. In the task of investigating the diseases of the ear, several modern authors have distinguished themselves, and rendered an important service to the science. Amongst others, we must mention, as deserving particular commendation, Lecheven, Itard, and Saissy, in France; Saunders and Curtis, in England; and in Germany, Albrecht, Van der Hoeven, Ehrharter, &c. to which may now be added Professor Beck, the author of the work under consideration. This does not pretend to be an elaborate treatise upon the subjects which it embraces, but merely a Handbook, or manual, intended, principally, for the use of students, while attending lectures.

The whole work is divided into three books, the first of which comprises the technical, the second the pathological, and the third the nosological parts of the subject.

The author, under the first of these divisions, makes a few brief remarks upon the general structure and arrangement of the organ, which, however, are too superficial to be of much utility. He then goes on to consider the usual remedies employed in the treatment of diseases of the ear, which he divides, according as they act upon the systems of animal or organic life, and according as they exalt or diminish the powers of the organs of which these systems are composed. These agents are employed in different forms, some of them being applied to the part in form of salves, or ointments, while others are used in a fluid state, as in injections, &c.

"Injections," observes the author, "may be thrown into the ear through three different channels; from the fauces through the Eustachian tube, through a puncture made in the membrana tympani, or a perforation made in the mastoid process of the temporal bone."

Each of these may be employed under certain circumstances, but the last, although practised with success by Jasser, a Swedish surgeon, and recommended by Hagstroem, Arneman, &c. should, we think, be resorted to with great caution. Berger, physician to the court of Denmark, fell a victim to its employment, in consequence of the inflammation extending to the brain and its meninges. The two other plans, however, may be resorted to with perfect safety and great advantage. Many cases of deafness depend on an obstruction of the Eustachian tube which only has to be removed, to restore the faculty of hearing. M. Deleau of Paris, even succeeded, by this simple procedure, in imparting the power of hearing and speech to a child who had been deaf and dumb from birth.*

Our author details the plans adopted by Itard and Saissy, in performing this operation, but subjoins, that he had never employed the forehead piece or the forceps of the former. For the silver tube he substitutes a small gum elastic catheter, provided with a small metallic stilet, so as to direct the point of the instrument into the orifice of the Eustachian tube.

Amongst the means employed in the treatment of diseases of the ear, must be placed blisters, setons and issues, cautery, both actual and potential, electricity, galvanism, &c. all of which are valuable under particular circumstances.

The next chapter is devoted to the consideration of the operations which are usually employed in diseases of the ear, as the perforation of the membrana tympani, either with a view of transmitting air into the cavity of the same name, where the Eustachian tube is obstructed, or to enable us to wash out matter or blood from the internal ear, or apply medicated substances to that cavity; perforation of the mastoid process, boring the ears to prepare them for the insertion of ornaments, or for some other purpose, or the formation of an ear, when that organ is deficient, either from defect of development, or in consequence of accident or disease. This has been called the otoplastic operation, for the same reason that one performed on the nose, for the same purpose, is called rhinoplastic.

We have next an exposition of the principles which should be observed in the selection and adaptation of artificial means of remedying the defects of hearing, as artificial ears, ear shells, ear trumpets, &c. These become necessary in those cases in which the receptivity of the auditory nerve is so much diminished as to render it insensible to the impression of ordinary sounds. They should, therefore, be constructed in such a manner, as to concentrate the force of the sounds in the greatest possible degree, without detracting from their clearness, or altering their proper characters.

The second book, we have already stated, embraces the consideration of the pathological part of the work. It is divided into pathogenic and pathological anatomy, the one having for its object the general consideration of the causes and characters of the diseases of the ear; the other the description of the particular lesions to which the organ is exposed. In describing the pathological anatomy of the ear, the author considers the lesions according as they affect,

> "1st, the external ear; 2d, the external meatus; 3d, the membrana tympani 4th, the cavity of the tympanum, the mastoid cells, the bones of the ear, and the muscles by which they are moved; 5th, the Eustachian tube; 6th, the labyrinth; and 7th, the auditory nerve."

It will be readily seen, that by adopting this plan the lesions of the ear can be described in a very natural order, as they are considered in direct relation with the different portions of the organ with which they are concerned.

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* Magendie, Journal de Physiologie.

The third, and last book, is devoted to the nosological considerations which appertain to diseases of the ear. These diseases are here divided by the author into two classes—vital or dynamic, and mechanical. Under the first he makes the following divisions:—

"1. Diseases of the plastic apparatus. 2. Diseases of the irritable apparatus: and 3. Diseases of the apparatus of sensation."

The diseases of the plastic apparatus are arranged under the several heads of inflammation, defective or augmented secretion, augmented nutrition, defective and perverted nutrition, and new developments or products.

The second division embraces the subjects of spasms and paralysis; and the third, those of pains, and perverted or altered sensation.

The second class of diseases of the ear, or those which depend upon mechanical causes, is divided into abnormal adhesions, abnormal separations, and foreign bodies.

We regret that we cannot follow the author through the interesting details which fall under each of these subdivisions of his subject, especially as we have been much pleased with the perusal of his book, and feel assured, that our readers could not but be gratified with a fuller exposition of the valuable materials of which it is composed. We consider the work well adapted to the wants of the junior part of the profession, and can confidently recommend it even to the more experienced, as abounding with good pathological principles, and correct practical precepts. E. G.

XIX. *Traité des Maladies des Voies Urinaires.* Par CHOPART, Professeur aux Ecoles de Chirurgie, Chirurgien en Chef de l'Hospice du Collège de Chirurgie de Paris, etc. Nouvelle édition, revue, corrigée, augmentée de notes et d'un Mémoire sur les Pierres de la vessie et sur la Lithotomie; Par M. E. H. Felix-Pascal, Docteur en Medc. de la Faculté de Paris, etc. Vols. 2. Oct. pp 948. Paris, 1830.

These volumes present a very elaborate account of the urinary organs, considered both in their healthy and morbid conditions. They are consequently a valuable source of reference, but in these times, an author who writes so voluminously, can scarcely flatter himself that his work will meet with a general or regular perusal. Under the head of vices of the urinary secretion, M. Chopart treats of the increase, diminution, suppression and changes in its natural qualities. With respect to diabetes, which of course is ranged under this head, he leaves us to infer, that its treatment was not as yet conducted upon any well-founded principles. The indications of cure he says, consist in diminishing the unnatural dilatation and relaxation of the urinary vessels of the kidneys, diverting the course of the chylous and lymphatic matter directed there so abundantly, restoring the transpiration and others excretions, keeping the bowels open, procuring the perfect digestion of the aliments, and removing the foreign bodies that may be found in the urinary organs, which complicate and maintain the diabetic condition. The first indication is to be fulfilled by prescribing, as an ordinary drink, barley or rice water, lime water mixed with a third part of milk; at other times, an infusion of sage or mint, or water slightly acidulated with sulphuric acid. The aliments should consist of mucilaginous vegetables, rice, sago, vermicelli; and milk oftener than broths, eggs, or fish. The patient should take moderate exercise, expose himself to the sun, avoid cold, wear flannel next the skin, be rubbed every evening, use the bath as often as his strength will allow, and take every day, six or eight grains of rhubarb to keep the bowels open. Should there be no diminution of the disease, a glass of whey with eight or ten grains of alum may be given, or the wine of quinquina, or the bark itself in powder, in the dose of a drachm, in a glass of claret. A large plaster of theriac, betony, or other topical roborant may be applied over the lumbar region. Following these instructions, we have without any comment, an editorial note, setting forth upon high authority, a course of treatment, which must be founded upon pathological views directly opposite to those held by M. Chopart. The editor writes as follows. --Convinced that diabetes consists essentially in a defective animalization of the alimentary substances submitted to the digestive process, MM. Dupuytren and Thenard have thought with MM. Rollo, Nicholas, and Guendeville, that the most efficacious remedy against this disease is a regimen exclusively animal. These authors in fact, without any other treatment than this regimen, have succeeded in curing their patients. MM. Nicholas and Guendeville, have conjoined the use of some medicines, and their practice has been crowned with equal success. The diet alluded to, consists of good soup of beef or mutton, with meats of the same kind, as also bacon, puddings of blood or fat, meats kept until slightly tainted or rancid, with pure and generous wine at repasts, which should always be taken at regular hours. Wine diluted with water, may be drank between meals to assuage thirst. The only vegetable aliment permitted, is bread of unmixed wheat flour.

The medical treatment which MM. Nicholas and Guendeville have conjoined to this regimen, consists in the employment of two grains of the watery extract of opium, in combination with powdered red bark, administered three times a day, namely, morning, noon, and night; two drachms of the phosphate of soda in a pint of whey, for the purpose of removing constipation, and as an ordinary drink, pure water with six or eight drops of liquid ammonia in each glass, or the phosphorous acid in the proportion of thirty or forty drops per bottle, and finally frictions externally with lard or other animal fat.

Thus the apparently simple course of treatment laid down by our author, is not a little perplexed by the entirely opposite plan, supported by no less authority than Dupuytren and others of the greatest eminence. Which is the most rational we shall not at present take upon ourselves to decide.

The author next treats of various affections of the urinary passages, accordingly as they are seated in the kidneys, the ureters, the bladder, and urethra. Among those of the kidneys he embraces vices of conformation, disposition and size, anomalous tumours, wounds, inflammation, cancer, worms, hydatids, &c. But we cannot perceive by what propriety or consistency he treats under this head, of lumbago, and of concretions found in different parts of the body, as for instance, ossifications of the dura mater, concretions in the stomach, intestines, liver, &c.

G. E.

XX. *Handbuch der Anatomie des Menschlichen Körpers mit Abbildungen.* Von MARTIN MUENZ, Doct. der Medizin und Chirurgie, bey der ausübendem Arzte, öffentlichem ordentlichen Professor der Anatomie und Physiologie an der Ludwigs-Maximilians-Universität zu Landshut, &c. Erster Theil, Muskel-lehre, Landshut, 1821. Zweyter Theil, Gefäss-lehre, 1821. Dritter Theil, Eingeweid-lehre, 1827.

The work before us consists of three volumes, folio, of plates, printed upon large royal paper, and three volumes, octavo, of descriptive letter-press. The first volume, embracing the description of the muscles, (*Muskel-lehre,*) was published as early as 1815, and was so favourably received, that the author was induced to republish it, with some emendations, in 1821. The plates, nine in number, representing the bones and muscles, are all copied from Albinus; a circumstance which renders it unnecessary that we should say any thing relative to their accuracy.

The three first exhibit an anterior, posterior, and lateral view of the skeleton, and are merely introduced as a preliminary to the study of the muscles, there being no delineation of the individual bones. The other plates, amounting to six, represent the muscles as they are delineated in the corresponding tables of Albinus.

The letter-press of the first volume occupies three hundred and thirty pages, octavo, comprising a description of all the individual muscles, together with directions for their dissection and preparation. The general style and execution of the descriptions, afford evidence of the abilities and good taste of the author, and are accurate and explicit, without exhibiting that character of diffuseness which it is so important to avoid. The directions also for preparing the muscles, which are placed at the end of the volume, are judicious and well calculated to facilitate the labours of the young dissector.

The second volume, (*Gefäss-lehre,* oder Lehre von dem Herzen, den Arterien, venen und Saugadern,) including a description of the three orders of vessels, the arteries, veins, and lymphatics, is much more complete, as a treatise, than that on the muscles. The plates, twenty-three in number, represent eighty-three lithographic figures of the natural size, executed on stone by the author, partly from nature, and partly from the best authors. Those which have been drawn from nature are, the 1, 6, 7, 8, 9, 10, 11, 13, 16, 17, and 22. They are all well executed, and are devoted as well to the delineation of the natural situation and distribution of the vessels, as to their most important varieties. Figures 5, 6, and 7, of Plate 8, exhibit an excellent representation of a varicose aneurism, implicating the radial artery, which was developed in consequence of a wound inflicted upon that vessel, in the operation of venesection. This figure has been copied by Bierkowskie, in his splendid Anatomisch-Chirurgischen Abbildungen, Berlin, 1827. Plates 2, 3, 4, 12, and part of 15, are from the very able production of Scarpa, Sull' Aneurism. Plate 2 represents the arteries of the thorax, arm and lateral part of the neck; Plate 3 the arteries on the anterior part of the thorax, and those of the arm and hand, together with the principal muscles of the same parts; Plate 4, the arteries of the back of the neck, arm, and hand; Plate 12, the arteries of the inferior extremities; and plate 15; the arteries situated on the posterior part of the same. Plate 5 represents the arteries of the neck, face, and head, and is copied from the Icones. Anat. of Haller. The same parts are delineated by the author from nature in plates 6 and 8. Plate 14 is copied from the splendid work of Scarpa, Sull' Ernie, Padua, 1817, and exhibits two views, the one of an internal, the other of an external inguinal hernia. Plates 18, 19, and 21, representing the principal veins, are from the inimitable work of Antonius and Caldani, (Leopold. Marc. Antonius et Floriani Caldani Icones Anatomicæ, 1802–1814.) Plate 20 is from delineations of the veins of the head and neck, by Walther, published in Observationibus Anatomicis, Berol, 1775, cap. 4, cum Tab. Œn. 2. Plate 23 is from the celebrated work of Mascagni, De Vasorum Lymphaticorum Corp. Humani Historia, Tab. XVI. It delineates the lymphatics of the abdomen, pelvis, and groin.

The figures contained in these plates are black, and though coarsely executed, they exhibit the same character of accuracy and fidelity to nature, which has obtained for the several works from which they have been copied, such a wide-extended and lasting reputation. Those which are drawn from nature, furnish strong evidence, as well of the author's anatomical knowledge, as of his correct taste. The value of the several figures is enhanced by the care which has been taken in representing the muscles of their natural size, and, as far as practicable, in their exact relations with the arteries, so as to exhibit to the surgeon an accurate view of the parts with which he is most interested, in the various diseases and operations which may claim his attention.

The descriptive letter-press, as in the treatise on the muscles, is contained in one volume, octavo, and occupies six hundred and forty-seven pages. The author commences with some general observations on the character of the different kinds of vessels, after which he treats successively of the particular properties of the arteries, veins, and lymphatics. Some very sensible observations are also made upon the primitive development of the vascular system in man, and the higher order of animals, in which its characters, as developed in the ovæ of these different animals, are attentively examined, and the similarity between the development of the human ovum, and that of oviparous animals, is particularly demonstrated. In the discussion of the several topics which fall under this head, the author has evinced considerable ingenuity, and has avowed his adherence to the tenets of Wolff and Meckel, relative to the connexion which exists between the *vesicula umbilicalis* and the *small intestines*, to the correctness of which our own researches, as well as some pathological specimens in our possession, induce us also to subscribe.

The special description of the arteries is done with much ability, and with strict attention to accuracy. The consideration of the distribution of each portion of the vascular system, is followed by a short description of the principal varieties which are observed in the distribution of the several vessels, and an exposition of their importance to the pathologist and the surgeon. Under the same head, the author has moreover entered into some important details relative to wounds of the several vessels, and has laid down some useful directions to be observed in including them in a ligature. We shall translate a paragraph descriptive of the operation of tying the subclavian artery, on the tracheal side of the scalenus muscle.

"In front of the vessel in this part of the neck, on the left side, are the phrenic and recurrent nerves, and on the right side, the recurrent is reflected upon its posterior part. Beneath it is placed the inferior cervical ganglion of the great sympathetic, and the cardiac nerve which arises from it; and on the right side, the continuation of the sympathetic forms a plexus which surrounds the vessel. On the left side, the thoracic duct passes over it for some distance, to discharge its contents into the left subclavian vein. On both sides it is covered throughout its whole extent by the subclavian vein. On the inner side of the scalenus muscle, and not far removed from it, the subclavian artery sends off the inferior thyroid artery, and in common with it, or by a separate branch from its lower part, the superior intercostal artery. Between this and the heart, it moreover gives off the vertebral artery, and as the ligature must of necessity be applied near this point, the constant stream of blood which is kept up in the collateral vessels, will prevent the formation of a coagulum, and the patient will be, consequently, exposed to the dangers of secondary hæmorrhage. All these circumstances tend greatly to increase the difficulties of tying the subclavian artery on the inner side of the scalenus muscle. In those cases, however, in which it becomes necessary to tie the artery between this muscle and the heart, it may be done in three ways.

"1. The artery is to be sought on the outer side of the scalenus, from whence it is to be traced towards its origin to the inner side of the muscle.

"2. It is to be exposed immediately on the inner side of the scalenus muscle.

"3. It may be tied at the lower end of the common carotid.

"The first plan should be preferred in those cases, where, in performing the operation on the outer side of the scalenus, the artery is found, on exposure, to be so much diseased, as to render it necessary to apply the ligature nearer the heart. Under these circumstances, the operation is to be performed in the following manner:—a grooved sound is to be passed behind the scalenus muscle, upon which a bistoury is to be passed, so as to divide that muscle in a transverse direction. The artery is then to be traced inwards, and the adjacent nerves being separated from it, a ligature is to be passed under it, at some proper point, by means of an aneurismal needle. This part of the operation is, however, attended with considerable difficulty, but may be facilitated, by requiring the assistant, while the surgeon draws the knot, to press it down upon the artery by means of the convex end of the sound.

"In performing the operation according to the second method, an incision three inches long is to be made, immediately above the sternal end of the clavicle, extending through the skin and platysma myoides. By this the clavicular portion of the sterno-cleido-mastoideus muscle will be exposed, and must be raised upon a grooved directory, and cut across, after which the surgeon, either with his finger, or the handle of the scalpel, should separate the loose cellular tissue situated at the bottom of the wound, until the artery is exposed on the inner side of the scalenus muscle. Taking care not to injure the phrenic nerve, and the branches which are given off by the artery itself, especially the vertebral and inferior thyroid arteries, he next proceeds to pass a ligature under the vessel as far as possible from the origin of the branches in question; and when these are sent off near the scalenus muscle, the ligature should be applied between the point of their origin and the heart. Great caution is requisite during this act of the operation, not to wound the upper conical portion of the pleura, which is forced upwards during a full inspiration.

"The first act of the third operation corresponds with the incision, which is made when we wish to apply a ligature to the lower part of the primitive carotid artery. This is to be continued downwards to the point at which this vessel separates from the subclavian; the latter vessel is to be then isolated, and tied near its origin, or further outwards, towards the scalenus muscle."—Vol. II. p. 543.

The great advantages to be derived from a just application of anatomical knowledge to the elucidation of surgical diseases and operations have long been sensibly felt, and we think that the effort here made by Professor Münz, to give to the subject its proper degree of consideration, cannot fail to be highly appreciated. As to ourselves, we will merely observe, that while we think we have met with some faults in the treatise before us on the vascular system, we are free to declare it as our opinion, that every part of it will be found to afford important advantages to the anatomical and surgical student. The pathological and surgical observations, appended to the descriptive portion of the work, possess a high value.

The third volume, (Eingeweid-lehre,) contains a description of the organs of digestion and urine, the male and female organs of generation, and the organs of voice and respiration. These different subjects are represented in ten large folio plates, containing eighty different figures, in which the objects are represented, for the most part, of their natural dimensions. The four first plates exhibit as many sections of the trunk of the body, made so as to expose the different viscera in their anterior, posterior, and lateral aspects, and in their natural situation and relations. Plate 5 is devoted to the mouth, salivary glands, throat, an internal aspect of the stomach, and the configuration and structure of the liver and its appendages. Several figures are introduced representing magnified views of sections of the parotid gland, liver, and of the follicules and villi of the mucous membrane of the stomach and intestines. Plate 6 is devoted to the pancreas and spleen, kidneys, bladder, and male organs of generation. Fig. 8 of this plate is particularly interesting, as it gives a view of a longitudinal section of a kidney magnified to the volume of one foot in its long diameter. Fig. 12 furnishes a very good view of the vascular arrangement of the body and glans of the penis, apparently from one of Mascagni's plates, contained in the Prodroma della Grande Anatomie; and in fig. 14, we have a magnified view, very well executed, exhibiting the intimate structure of the testicle and epididymis. We have particularized these subjects as possessing a considerable degree of merit. The whole plate is, however, well executed. The same is true to a certain extent of plate 7: in it are delineated a part of the male and female organs of generation. Fig. 1 gives a very good lateral view of the male pelvis and organs. But decidedly the most interesting part of the plate is that which has reference to the descent of the testicle in the fœtus. This is excellently represented in several figures, of which the 4, 5, 6, 7, and 8, are copied from the very able dissertation of Seiler, entitled *Observationes Nonnulæ de Testiculorum ex Abdomine* in *Scrotum descensu, Lipz.* 1817. Fig. 11 is from the very able work of Langenbeck, (*Commentarius de Struct. Peritonæi, &c. Gœtting.* 1817.) Tab. 8 represents the female organs of generation; and fig. 2 gives a good lateral section of the female pelvis and organs, which seems to be a modified copy of one of Rosenmuller's plates, (Anatomisch Chirurgisch. Abbild. 1811-18.) Plate 9, representing the organs of respiration and voice, possesses some merit, especially fig. 4, in which is exhibited the termination of the bronchial tubes, in the air-cells, according to the researches of Riesseissen. The value of the plate might, however, have been greatly enhanced by the author drawing freely upon the very able work of the individual just quoted, upon the structure of the lungs. We are not disposed, however, to find fault; on the contrary, we find much in Professor Münz's plates to commend. It is true, they are coarse, and present no claims to be considered as specimens of elegance, but at the same time strict attention has been paid to accuracy, and much judgment has been displayed by the author, as well in his original designs, as in his selections from others. Even their coarseness will tend to increase the extent of their usefulness, since the author has so far acted up to his design, expressed at the outset, of furnishing the student with accurate delineations of the organization at a cheap rate, that his plates can be made, by that circumstance, to fall within the means of many who would be unable to possess themselves of the more elegant, and far more expensive works of Tiedemann, Cloquet, Mascagni, and others. It will moreover be seen, by referring to the various sources from whence the materials of Professor Münz's work have been drawn, that the student who possesses it, can very well dispense with others, as many of the plates have been copied from the works of the ablest authors, amongst whom we may mention Albinus, Haller, Walther, Caldani, Scarpa, Mascagni, Rosenmuller, Langenbeck, Seiler, and others.

Of the descriptive portion of the work comprised in the third volume, we have but little to say. It, in general, bears the stamp of merit, and our limits will not allow us to designate particularly its claims or defects. We will merely observe, that the author, with Chaussier, Ribes, Madame Boivin, and others, considers that the inner surface of the uterus is not supplied with any lining membrane, but that the mucous membrane is lost upon the neck of the organ. Our own researches have led us to adopt a different conclusion. At page 480, however, we find an important part of description, the correctness of which, though new, is confirmed by our own dissections. "The vocal cords, or ligaments of the glottis, consist of the tendon of a thin semipeniform muscle, which is situated on the outer side, and within the duplicature of the mucous membrane of the glottis, which forms the superior and inferior borders of the ventricles of the larynx, with which it is intimately connected." We have repeatedly dissected these muscular fibres, which are inserted obliquely into the vocal cords, and have, since the winter of 1827, demonstrated them in our lectures. They can be easily shown in a good muscular subject, merely by dissecting up the mucous membrane. These muscular fibres, no doubt, have some instrumentality in the production and modulation of the voice, and are certainly much better adapted to that office than simple passive ligaments, which have hitherto been considered as the principal instruments of that important function.

Not the least important part of the work before us is that which is devoted to the numerous physiological and pathological remarks with which it is interspersed. The description of each organ is, moreover, followed by a reference to the principal authors who have written upon the subject, thus furnishing a useful bibliography, by which those who may wish to extend their researches, may be enabled to refer at once to what has been already done.

We regret that the fourth volume is not yet published. It is, however, promised to be forthcoming with all possible despatch, and will, no doubt, when finished, be found like the volumes before us—well adapted for those for whom the work was especially intended. The fourth volume is to embrace the consideration of the brain and nervous system, to which the author has promised to add an appendix, which is to supply what is deficient in the first volume, on the bones and ligaments.

Having said thus much of the materials and execution of the work before us, it is needless we should enter into any further details. It will be seen, from the tenor of our observations, that we think well of it as a production calculated for the use of students, and we feel assured, that it cannot fail to afford them great advantages whilst engaged in anatomical pursuits. We are not one of those who believe that anatomy can be taught by means of engravings; yet, from the result of considerable experience, we feel ourselves authorized to believe that whilst the student is engaged in dissections, such delineations, by exhibiting to him general notions of the parts that are to be exposed by his knife, tend very much to assist him in the acquisition of anatomical knowledge. It is in this manner the work of Professor Münz should be used. It should be made the manual for the dissecting room, a purpose for which we think it well adapted. American students stand in much need of such a work, and he who shall supply a desideratum so important, will deserve well of his country. E. G.

XXI. *Institutionum Medicinæ Practicæ, quas auditoribus suis prælegebat.* Jo. Bapt. Burserius, de Kanifeld, Recudi curavit, Just Frid. Car. Hecker, Medicinæ, Utriusque Doctor, et Professor P. E. in Univers. Litter. Berolinensi, plurium Societatum Medicarum, et Litterar. Socialis. Vol. 4. Lipsiæ, 1826.

The Institutes of the Practice of Medicine, of Jo. Bapt. Burserius. Edited by Professor Hecker, of Berlin, &c. 4 vols. Leipsic, 1826.

The Institutes of Burserius have been long known to the profession, and it is not on account of their novelty that we now announce them to our readers. It is probably generally known that the author was suddenly cut off in the midst of his brilliant career, at a time when only a part of the work in question had been made public. The remaining portion, the materials of which were left in a crude and unfinished condition, has long been a desideratum with those who admired the correctness of his principles, as they could not have been otherwise than captivated with the beauty, and even eloquence of his style, though conveyed through the medium of a dead language, and many attempts have been accordingly made to supply what has been so much wanted. Unfortunately, however, most of these attempts have failed, and it remained for Professor Hecker, a gentleman distinguished as well for his polite, as for his professional attainments, to bring to the execution of the task that ability and erudition which were necessary to ensure success. The edition of Burserius, which we have here announced, is the fruit of this enterprise, in which, we think, all will agree with us, that Professor Hecker has conferred an important benefit upon the profession.

The three first volumes, the first containing the consideration of fevers, the second that of the exanthemata, and the third the diseases of the head and neck, may be considered the result of the author's own labours, they having, for the most part, received the finishing touch of his own hands. The fourth, however, is posthumous, and has been drawn up by Professor Hecker, from the crude and unfinished notes of the author; "non enim elaboratas, absolu-

tasque continet prælectiones, uti fortasse sunt, quæ tribus prioribus continentur voluminibus, *sed rudes eas ac informes* quales nempe illi tum e calamo exciderunt, cum primum eas de die in diem festinanterque, in usus scholasticos exararet."

This fourth volume is devoted to the history and treatment of the diseases of the chest and abdomen, and although the materials of which it is composed, were found in the rude condition represented by Professor Hecker, we must do him the justice to say, that he has put them in a form to bear a very creditable comparison with those of the preceding volumes. It is needless we should say much of the work in question. To many of our readers it is doubtless already known. We will therefore merely observe, that it should be known to all; for although the opinions are often somewhat antiquated, the descriptions of disease are drawn up with much accuracy and clearness, and the practice inculcated is generally in accordance with correct and rational views.

E. G.

XXII. *Medico-Chirurgical Transactions.* Published by the Medical and Chirurgical Society of London. Vol. XV. Pt. II. London, 1830. pp. 187. 8vo. Plates 4.

This Part of the 15th Volume contains only three memoirs. The first, by Dr. Hodgkin, is devoted to the description of the anatomical characters of a large and important class of structures, which, though often met with in various parts of the body, are foreign to it in its healthy or natural state. The first of these adventitious structures noticed by Dr. H. are the serous membranes occasionally found in various parts of the body, as the result of irregular or accidental production; they have been confounded by some pathologists with hydatids and other cysts, and hence much confusion has arisen.

The adventitious serous membranes, like those naturally existing in the body, form completely shut cavities. As far as we can ascertain, they are wholly, or at least with but few exceptions, the result of an entirely new formation dependent on some anomaly in the function of nutrition, but respecting the precise nature of which, we are completely in the dark. Dr. H. divides the serous cysts into two classes. The first comprising those which are simple, and for the most part solitary; but which, if accompanied by one or more similar membranes, owe this association to the accidental circumstance of the same cause which produced the one, having likewise operated in its neighbourhood, rather than to the sac possessing the remarkable property of giving origin to new growths having the same character as itself. Cysts of this class are formed in various parts of the body. Dr. H. has met with a thin and delicate serous cyst, about the size of a nut, perfectly circumscribed, and filled with transparent colourless serum, situated at the base of the brain, not far from the tractus opticus, in a female who had not been observed to present any cerebral symptom.

Clusters of them are found in the plexus choroides. These are manifestly vascular, and seldom exceed the size of small currants.

Simple serous cysts are occasionally formed in the eyelids; some are found along the edges of the tarsi, where they seldom acquire more than a moderate size, and their removal is effected with little or no difficulty. Those which are situated more completely in the body of the eye, and which at times extend pretty deeply into the orbit, are more difficult in their treatment, and more serious in their consequences. Dr. H. saw a young woman in La Charité, under the care of Baron Boyer, who was affected with a cyst of this kind of nearly the size of a chestnut. From the depth to which it extended into the orbit, it was not thought expedient to attempt the total removal of the sac, but it was hoped that when the greater part had been removed, the remainder might be obliterated by adhesive inflammation; but instead of this result being obtained, a high degree of irritative fever carried off the patient in a few days.

Simple adventitious cysts sometimes occur in the lungs, according to Laennec. They are also found in the female mamma, and in the neighbourhood of the uterus, particularly in the folds of the broad ligament, or intimately connected with the ovaries, if not imbedded in their substance. Cysts of this last kind at times acquire a very large size, and constitute one of the forms of what is commonly called ovarian dropsy.

The second class of adventitious serous membranes, are those whose parietes present the very remarkable property of producing other cysts of a similar character with themselves, or morbid growths, which, if they do not present, strictly speaking, the character of cysts, are, nevertheless, referrible to the same type or mode of formation. Cysts of this class are also found in different parts of the body, but they are by far the most frequently met with, acquire the largest size, and present the greatest variety of appearances, in the neighbourhood of the uterus, but more especially in the ovaries and the folds of the broad ligaments.

In this class there is a principal cyst, on the internal surface of which are elevations more or less rounded, and of various sizes, projecting into the interior of the cavity, and covered by a membrane which is continuous with the lining of the principal sac. These tumours are cysts of a secondary order, containing sometimes a serous, at others a mucous secretion. On the internal surface of these secondary cysts, on minute examination, there may be seen a cluster of tertiary cysts, upon which are reflected the lining membrane of the cyst in which they are contained.

"The proportion which the contained cysts bear to the cavity of the membrane reflected over them is extremely various. Sometimes the fluid, especially when it is of a serous character, nearly fills the containing cyst, whilst the bunch of cysts is of very inconsiderable size. At other times, the superior cyst, is almost entirely filled by those of the inferior order; in which case we may generally find that the nodulous or tuberose elevations, which we may have observed on the exterior of the containing cyst, are occasioned by the unequal development of the contained cysts; for those which have grown most rapidly, and have attained the largest size, forcibly dilating that part of the cyst which is reflected over them, produce a kind of hernia at that part. It sometimes happens, that the distension occasioned by the growth of the contained cysts is sufficient not only to disturb the even surface of the containing cyst, but actually to produce a rupture, which admits both of the escape of its fluid contents, and of the unrepressed growth of the secondary or tertiary cysts, which took their origin from its internal surface. The inferior cysts themselves are found to contain a serous or mucous secretion, and very often to produce another order of cysts, possessing the same character with themselves. It is certainly by no means surprising that these cysts of different orders, which sometimes present the appearance of delicate and pellucid sacs, filled with clear and colourless

> serum, and possessed of the astonishing power of giving rise to an almost innumerable multitude of cysts presenting the same character with themselves, should at the first view have been confounded with true hydatids; but it is no less surprising, that a little careful inspection did not at once irrevocably remove the delusion."

The membranes of which these cysts, whether of the second or third order, are formed, are liable to inflammation. The product of this inflammation, like that of inflammation which takes place in the serous membranes naturally belonging to the body, may either be of the plastic or of the inorganizable kind. In the former case it leads to the formation of adhesions between the close portion of the membrane, or that which constitutes the contained cluster of cysts, and that portion which is reflected over them, forming the parietes of the containing cyst. It is the formation of these adhesions which so frequently renders it difficult to demonstrate the structure which has been described. When the product of inflammation is of the inorganizable kind, we find a secretion more or less puriform in its characters. This secretion is sometimes found confined in one or more of the secondary cysts. At other times it finds a way of escape into the interior of the principal cyst, and thus contributes to the variety in the appearance presented by the fluids drawn off in the operation of paracentesis for the relief of ovarian dropsy.

Dr. H. describes three varieties of these secondary cysts; the first has neither slender necks or broad bases; the second is characterized by slender peduncles. It has been stated, that

> "At particular points on the internal surface of the superior cyst that the clusters of inferior cysts take their origin. It sometimes happens, that the number of cysts forming the cluster is so great, in proportion to the space which they occupy, that, like trees too thickly planted, they interfere with each other's growth. Their development is more or less limited to an increase of dimension in length. Yet as their free extremities are allowed to diverge, we sometimes find the slender peduncle gradually dilating into a pyriform cyst. At other times the dilatation does not take place till near the extremity of the peduncle, and then produces a cyst more nearly resembling a grape or currant. At other times no dilatation takes place, probably from the cavities having been wholly obliterated."

In the third variety the secondary cysts have a broad attachment and flattened form. The secondary cysts in this variety also are

> "Collected in clusters on the parietes of the superior cyst, but they appear to produce a circumscribed and more or less considerable thickening of the parietes rather than a prominent tumour covered by a reflected membrane; they constitute, however, perfectly shut cavities, acquire at times a considerable size, contain in some instances a serous, and in others a mucous secretion, and produce in their parietes inferior orders of cysts, having like themselves broad bases and flattened forms. From the extent of their bases, the secondary cysts in this variety occupy proportionably a much larger space on the internal surface of the containing cyst, and by their development, although they increase its size, they seem more completely to encroach on its particular cavity. In cutting into a tumour composed of this form of cysts, we may find, it is true, several cavities of considerable size, but we shall probably not find the greater part of the fluid collected into one particular cavity. Hence, in this variety of ovarian dropsy, fluctuation is often obscure, and the relief afforded by paracentesis only partial and trifling."

Adventitious serous cysts, assuming the form of reflected membranes, are also met with in the testicle, female mamma, and in the eye.

Dr. H. next proceeds to the consideration of the different heterologue deposits, confounded by modern anatomists under the names of cancer, scirrhus, and carcinoma. Dr. H. endeavours to show that these formations by their structure, mode of development, and for the most part, by their influence on the system, are to be referred to one common type, and grouped into one family, yet that there are certain peculiarities which justify the division into at least three specific divisions. Their limits are, however, so ill defined, that it is difficult often to decide to which of the species a particular specimen should be referred; but in the best marked cases there is no difficulty of this kind.

The common points of resemblance in these tumours depends chiefly on structure. These tumours have a more or less rounded form—a section shows them to be more or less divided by septa, which affect sometimes a radiated form, and at others a cellular character; these differences, however, upon which much stress has been laid, Dr. H. thinks depends upon the direction in which the sections are made. This plan of examination is therefore objectionable, and still more so when the part is emersed in alcohol, by which the fluids are coagulated, and the transparent parts rendered opaque, and the most important characters thus destroyed.

"If we carefully dissect down to the surface of these tumours," says Dr. H "we shall usually find that it has a capsule or covering, which has, I believe, generally been supposed to consist of the altered and condensed cellular membrane of the parts which have given way before the growth of the tumour. This idea is probably correct with respect to the unequally thick external part of the capsule; but if we dissect carefully, and examine those tumours in which the process of decay has either not commenced, or has made very little progress, we shall find that surface which is next to the mass of the tumour more or less smooth and even, and on raising it we find that it is reflected over one or more somewhat pyriform bodies, attached by a base, which is generally narrow and peduncular, to some part of the circumference of the enclosing capsule. Unless the tumour is very small, it is much more common to find several rather than a single body of this kind, and as there is often little, if any fluid intervening between them and the enclosing capsule, their form is somewhat modified by their mutual pressure. Sometimes, though more or less closely applied to each other, these pedunculated bodies are perfectly detached at their sides, and may, consequently, be readily traced to the point which forms the common origin of their peduncles. At other times these bodies are so adherent amongst themselves, and the membrane covering them is so tender and delicate, that without very great care the arrangement of their structure may be overlooked, in consequence of the pedunculated bodies being broken or torn through in a different direction from that to which their mode of formation would naturally dispose them." * * *

"If we continue dissecting and raising the outer cyst, forming the reflected membrane which covers the radiating pedunculating bodies, we shall generally find, that on one or more sides it dips down deeply into the mass of the tumour, and forms a part of the septum which separates the one packet of pedunculated bodies from the others which generally concur to form the mass of the tumour; for it comparatively rarely happens that the tumour is composed of a single cyst filled with pedunculated bodies. On examining the different encysted packets of pedunculated bodies which compose the tumour, we shall often find some indication of their having taken their origin from nearly the same spot, which is generally the most indurated part of the tumour. We may likewise observe, that the different secondary tumours, or encysted bundles of pedunculated bodies, are in very different stages of progress."

True scirrhus tumours are characterized by their hardness, which is in many instances equal to that of cartilage, but they want the uniform texture of this natural tissue, and in this respect bear a nearer resemblance to fibro-cartilages; hence, when divided by incision, they give rise to some noise, and are said "to cry under the scalpel." There is want of uniformity also in the colour of this structure.

"True scirrhous tumours appear sometimes to depend on a single primary tumour, at other times, several may be satisfactorily made out. That part of the tumour which appears to have been the common origin of the primary cysts, where there are more than one, or from which the contained pedunculated bodies radiate when there is only a single primary tumour, is in general the most indurated portion, and is, at the same time, the most indistinct in its structure. When examined externally, after the surrounding natural structures have been carefully dissected off, this part of the tumour is found to be the most irregular, has a somewhat corrugated appearance, and suggests the idea of its having been the sort of root by which the adventitious growth was implanted on the natural structures. The radiated appearance so strongly insisted on by most authors who have described scirrhous tumours, and the rationale of which I trust I have shown, is particularly conspicuous when the section passes through this point. The fluid part of a true scirrhous tumour bears in general a very small proportion to the rest of the structure, it has a viscid or mucous character, more especially where softening has not taken place; but where this process is going on, it assumes the character of an offensive ichorous discharge, and acrid and highly deleterious qualities have by some been ascribed to it.

"The process of softening sometimes commences internally at one point, at other times in several small isolated points; in others, again, the ulceration through the integuments is the first part of the process of decay.

"True scirrhous tumours, notwithstanding the length of time during which they continue to grow, very rarely acquire a considerable size. Indeed, it not unfrequently happens, that the wasting of the neighbouring structures, and more especially of the female mamma, which is by far the most frequent seat of true scirrhus, more than compensates for any increase of volume dependent on the new formation."

The tumours now under consideration, "in many instances remain for a length of time in an indolent state, without passing into a state of softening, or producing an external ulceration. Before this ulceration takes place, the tumour becomes adherent to the skin, and though there is generally but little redness observable in these tumours, a spot, most frequently of small extent, becomes of a bright and cherry-red or of a purple livid colour before the continuity of the integuments is destroyed. It is needless that I should again describe the characters of a malignant ulcer, which are in general very completely seen in the ulcerative stage of true scirrhus. It may, however, be said, that the ulceration of true scirrhus is attended with a more decided loss of substance than that of the next form of tumour of which I shall speak—viz. cerebriform cancer, and which is often attended with large, rapid, and irregular growth from the ulcerated surface, whence the names of fungoid disease, fungus medullaris, &c. have in all probability been derived. The ulceration of true scirrhus is indeed bounded by its elevated wall of circumvallation; but the central parts, gradually hollowed away by the softening of the very imperfectly organized structure, present a foul and deep chasm."

Sometimes one or more vessels give way and lead to a hæmorrhage, which in some instances is very profuse.

Dr. H. believes that sometimes, though very rarely, tumours possessing the true characters of scirrhus have been detached by the sloughing of the surrounding structure; and by being in this way completely thrown off from the system, the cavity which they occupied has been filled up with granulations, the surface cicatrized, and a permanent cure obtained.

Dr. H. next describes the scirrhous tubercles developed in the body of the uterus. These possess a well-defined rounded figure, a close and compact tissue, in which the structure, referrible to the same type as the cysts to which I have so often alluded, is tolerably distinct, on a much larger scale than that generally observable in true scirrhous tumours in other parts of the body. They rarely, if ever, present any cells or cavities. They acquire a much larger size than true scirrhous tumours in other parts of the system. They never, or at most very seldom, pass into the stage of softening or ulceration, and when formed in the uterus, without any other organ having exhibited a tendency to the production of scirrhus, the formation almost always continues wholly confined to this organ.

The next form of malignant disease described by Dr. H. is that to which the terms encephaloid tumours, cerebriform cancer, medullary sarcoma, spongoid inflammation, fungus hæmatodes, and fungoid disease have been applied. One of the most striking features which distinguish the fungoid disease from true scirrhus, is the rapidity of the development of the tumours in the former, which sometimes attain a prodigious size in even a few weeks. Scirrhus is also almost exclusively the disease of advanced life, whilst the

> "Fungoid disease makes its appearance in individuals of every age; but its most formidable and extensive ravages are seen in the young. Whilst in true scirrhus the fluid matter forms a very inconsiderable and scarcely notable part of the structure, in the fungoid tumour it is frequently pretty abundant, presents a great variety in its characters, and is often collected in cavities of considerable size. In the scirrhous tumour, the peculiar mode of formation which I have pointed out must often be inferred by analogy, guided by faint and partial traces; but, in the fungoid disease, we meet with those unequivocal manifestations which almost speak for themselves. In true scirrhus the traces of vascularity are very faint; but in the fungoid disease the adventitious membranes possess a high and preternatural degree of vascularity. The vessels which we see ramifying in them, are not only numerous, but large." "These newly-formed vessels, though large and numerous, are extremely weak and tender, and derive little or no support from the structure through which they ramify, or by which they are surrounded; hence, they are liable to give way at numerous points, whence proceed those frequent and extensive hæmorrhages which so often characterize these tumours, and have led to the term of fungus hæmatodes, which has not inaptly been applied to many of them."

Sometimes the hæmorrhage from these vessels produces an effusion into the cavity of the membrane reflected over an inferior order of pedunculated cysts or bodies, and distends it into a cavity filled with blood—at other times the effused blood infiltrates the more solid parts of the tumour, and produces an appearance which Laennec has well compared to an apoplectic clot.

> "The more solid parts of the tumour differ in a marked manner from that which composes the scirrhous tumour. In this disease, the secondary cysts, which are often of large size, generally become filled with a material which at first bears a considerable resemblance to tender or feebly coagulated fibrine or plastic lymph. Into this substance new vessels speedily shoot; but being neither

susceptible of perfect organization, nor calculated to remain inert and dormant, it speedily, but gradually, loses its vitality, and, like other transparent parts in which such a change is effected, gradually becomes opaque, and bears, in consistence and appearance, a close resemblance to the substance of the brain of a child: hence the terms, cerebriform cancer, encephaloid tumour, and medullary sarcoma."

The characters of fungoid disease are of course modified by the tissues in which the tumours are developed. When it takes its origin in a part of the osseous system—

> "Bony matter continued from the natural structure forms a striking part of the new growth, through which it often radiates from that part of the bone in or near which the disease commenced. The bone thus formed is of a loose and feeble texture, compared to that of healthy bone. It would appear that the deposit of bony matter only takes place in that part of the tumour which is subjected to the pressure of the periosteum, which is often greatly distended by the growth of the tumour. Its fibres become separated by this distention, the morbid growth advances through the opening and proceeds with increased rapidity, and soon loses all trace of bony deposit."

The consideration of melanosis Dr. H. postpones for a future memoir.

The second article is entitled "Observations on the Statement made by Dr. Douglass of Cheselden's Improved Lateral Operation of Lithotomy;" and is by John Yellowly, M. D. The object of this memoir is to correct some errors into which Dr. Douglass has fallen in relation to Cheselden's last mode of operating for the stone, and prove that the mode which received Cheselden's final and mature approbation, is that described in the fifth and sixth editions of his anatomy.

The third and last article is by Robert Lee, M. D. and is entitled "Pathological Researches on Inflammation of the Veins of the Uterus, with additional Observations on Phlegmasia Dolens." Uterine phlebitis is at present attracting considerable attention, and much information has within the last two years been developed in relation to it. As it is a subject of considerable interest, and one to which it would be impossible to do justice at the conclusion of a notice already too much extended, we shall postpone a consideration of it until our next number.

XXIII. *Handbuch der Entbindungskunst.* Von Dr. Friedrich Benjamin Osiander, Wieland Königl. Grossbrit. Hanov. Hofrath, und Professor der Medicin und Entbindungskunst, Director des K. Entbindungs Hospitals, Mitglied der K. Societät der Wissenschaften zu Göttingen, &c. Erster band. Zweite Vermehrte Auflage. Bearbeitet von Dr. Johann Friedrich Osiander, Prof. der Medicin zu Göttingen, &c. mit dem Portrait des Verfassers. Tübengen, 1829.

Manual of Midwifery. By Fred. Benj. Osiander, M. D. Second improved edition, edited by John F. Osiander, M. D. Professor of Medicine at Gottingen, &c.

The name of Osiander has long been familiar to the medical world as that of one of the most distinguished accoucheurs of Europe. The first part of the work, which we now announce, was published as early as 1818—the second part, or volume, in 1820—the third volume in 1821, and the fourth, and last, which is posthumous, and which is edited by the author's son, Dr. John Fred. Osiander, in 1825. The first volume, therefore, announced above, is a new edition of the first part, which had become scarce. The whole, taken collectively, constitutes a very complete and able system of the obstetric art, and deserves to be attentively studied by every one who is devoted to the practice of that branch of the profession. We cannot enter into any analysis of the work, as such an undertaking would require more space than we can allot to the subject. Suffice it to say, that the whole of the topics, which appertain properly to the department of which it treats, are discussed with great ability, and that while the author furnishes us with the rich results of his own extensive experience, he treats the opinions of others with great candour, and with the true spirit of sound criticism. We can confidently recommend his work as a source from which a great fund of useful information may be derived.

E. G.

XXIV. *A Treatise on Deformities; exhibiting a Consise view of the Nature and Treatment of the principal distortions and contractions of the limbs, joints, and spine. Illustrated with plates and wood cuts.* By LIONEL J. BEALE, Surgeon. London, 1830, pp. 248. Pl. 4.

Nothing more emphatically expresses the belief in the increasing frequency of distortions, especially of the spine, than the great number of works annually put forth on that subject. The apparently *sudden* augmentation of the number of such cases, has produced many essays, but these have of course not been usually by experienced men, especially of the English school. In France, where there exist several very large establishments for the management of distortions, we may naturally expect to find the most valuable memoirs on the philosophy and treatment of such diseases, and accordingly, in the works of Delpech and Lafond we perceive the evidence of a very enlarged experience: but both authors have been betrayed into a display and exclusiveness, little in character with high professional spirit, or accordant with sound and useful medical knowledge. Each sets out to make a point, but it is not for the art; it is for himself.

The only English author who has treated at large and with much science, of the difficult diseases of distortion, is Mr. John Shaw of London, whose premature death has left a chasm in this important subject, not likely to be as well filled. At an early age, having acquired the confidence of the vast metropolis, in which he resided, his opportunity of becoming familiar with this disease was almost unlimited. As demonstrator of anatomy in the excellent school in Windmill street, he was furnished with frequent views of the more immediate changes produced in deformed parts. With all these advantages, however, the style, arrangement, and tautology of Mr. Shaw's numerous works, deprive them of much of that value which their philosophy might otherwise claim for them. In general, the other English works on this subject, are usually proclamations of peculiar treatment, lauded, for private purposes, and setting forth a practice, which has, in no case met with the reception claimed for it; and, at this moment, the great English surgeons abandon this most important department of the art to instrument makers, posture masters, and teachers of gymnastics and callisthenics. The concise treatise before us, written perspicuously, and professing to give a summary of the practice suggested by Delpech, Scarpa, Lafond, Shaw, and others of high authority, will, therefore, be found instructive and useful. It also treats of the distortions of the different parts of the body, and brings into one volume, the whole system of *Orthomorphia*. In the appendix, are figured various forms of distortion, and the instruments selected by Mr. Beale for their removal. Although he is favourable in spinal serpentine curvature to the now popular mixed treatment, by exercise and extension, he supports some positions which, at this time of day, grate a little on our intellectual organs.

> "These and *all other organic diseases*," says our author, "are the result of some morbific action of the local arteries, or of the general circulation; and this leads us pretty near the old humoral pathology, which, like many other old notions, may, one of these days, come again into fashion," &c. p. 172.

He denies that stays are among the prominent causes of lateral incurvity; defends easy and lounging postures when not in action; recommends feather beds in preference to mattrasses; and, after the manner of Delpech, confines his patients, when extended, to the horizontal posture.

An analysis of so concise and comprehensive a work is scarcely possible, and is the less necessary, since it contains so little that is peculiar. It is a work, however, which for these very reasons, will be found the more instructive and useful to the busy practitioner, who has little leisure for extensive references.

XXV. *Mémoires sur l'Electro-Puncture, considérée comme moyen Nouveau de Traiter efficacement la Goutte, les Rheumatismes, et les Affections Nerveuses, et sur l'emploi du Moxa Japonais en France; Suivis d'un Traité de l'Acupuncture et du Moxa, principaux Moyens Curatifs chez les peuples de la Chine, de la Corée et du Japon; Ornés de figures Japonaises.* Par LE CHEVALIER SARLANDIERE, Docteur en Médecine, Membre de Plusieurs Académies et Sociétés Savantes. Oct. pp. 150. Pl. 2. A Paris, 1825.

Among the Chinese, Japanese, Coreans, and many other Orientalists, the operations of acupuncturation and applying the moxa, constitute we are told, the primary agents, upon which all hopes of relief from pain and sickness are founded. We thus find by far the largest proportion of the inhabitants of the earth, putting their trust in remedies, which with us are regarded as insignificant by many, and by nearly all as of secondary importance. We cannot but admire the happy circumstance, which in this instance interposes to protect so many of the human family from the pernicious consequences which the employment of the more potent resources of our therapeia might occasion. That at least the largest portion of the human family, should thus be sheltered from the baneful consequences, which in other parts of the world so often attend on the injudicious and even wanton employment of bleedings, evacuants, and other heroics, affords a reflection that cannot but be grateful to the feelings of the philanthropist.

As much information relative to simple acupuncturation has, within a few years, been circulated through the various medical periodicals, and as the subject of moxa is by no means a new one, we shall at this time, barely observe of both remedies, that in the publication under notice, M. Sarlandiere appears to have presented all the information relative to their uses and modes of application, which the practitioner desirous of resorting to them could desire for his guidance. We pass on therefore to the subject of electro-puncturation, which consists of the combined agencies of simple acupuncturation and electricity. The disappointment which has so often been experienced by those who have resorted to the electric fluid as a means of relief in certain cases, he attributes to its having been employed on the surface only. According to his plan, however, the fluid is introduced directly through the skin into the affected muscular or fibrous tissue, to the point of saturation, when its action is as our author expresses it, to modify the vitality, and change the nature of the pain by putting an end to the irritation. It is evident that simple acupuncturation, which supposes the electric fluid to be subtracted, must be precisely the reverse of electro-puncturation, where this fluid is introduced, but notwithstanding this difference in the two plans, we are informed that their operation is similar in effect, though not in degree; one method being much more energetic than the other. By some, it may appear as no small advantage of electro-puncturation, that it will have less incredulity to contend against, than the simple introduction of the needle. For this reason, we should suppose that were the inhabitants of the east capable of superadding the curious phenomena of electricity to their favourite operation, their characteristic superstition and love of the marvellous, would soon lead them to prefer, and embrace the practice of electro-puncturation.

The experiments of M., Sarlandiere, have led him to the following general conclusions. 1st. That the electric fluid may be introduced into the body in large quantity, without the production of shock or commotion, and yet not prove sufficient to perform a cure. 2d. That shocks applied to the cutaneous surface, by means of the Leyden vial or other means, may be transmitted through this tissue so as to be felt by the nervous chords, in which case electricity has been employed with success in the treatment of diseases, but the cures have always been effected very slowly. 3d. That the electric fluid, conducted into the interior, and brought into immediate contact with the nervous filaments of the tissues which are the seats of pain, occasions, at the instant of its discharge, a shock throughout the suffering organ. This shock, which dislodges the pain, and is felt in the most direct manner, is much more advantageously applied to the cure of gout, rheumatisms, and nervous affections, than those which are transmitted through the skin, and thus it may be easily conceived, that if some advantage is to be derived from the introduction of needles alone, much more might be expected when to acupuncturation the good effects of electricity were conjoined. M. Sarlandiere denies the magnetic virtues which have been attributed to the needles, since if they exerted any agency of this kind, those of steel would certainly be preferable to those of gold and silver, which last are almost exclusively employed.

We have neither time nor space for a description of his modes of operating, or to notice half the diseases in which he resorts to electro-puncturation. A few of these will suffice to show his views of the modus operandi of the remedy. Among those which yield to it he mentions rheumatic and gouty attacks, together with nervous affections when unattended by inflammatory symptoms. In these cases the disease is attacked in the bud, as it were, when its mode of existence is destroyed, and the condition of the nerves causing the pain altered. As in this operation the practitioner has in his hands an agent superior to, and able to controul the nervous action whatever may be its force, he may always be sure of attaining his end, namely, effecting a change in the morbid conditions of sensibility and action, provided always that there be no organic lesion or inflammation, the intensity of which last would be increased by the shocks administered. Electro-puncturation is therefore to be viewed as an active stimulant agent for the production of revulsion, acting mainly upon the principle in the old Hippocratic aphorism, which says, duobus doloribus simul obortis, non in eodem loco, vehementior obscurat alterum. G. E.

XXVI. *Traité Elémentaire d'Anatomie, contenant les Preparations, l'Anatomie Descriptive et les Principales régions du corps humain.* Par A. Brierre de Boismont, D. M. P. &c. &c. Avec des notes Extraites du cours de Ph. Fred. Blandin, Professor particulier d'Anatomie et de Médecine opératoire, &c. &c. Paris, 1827, pp. 800, 8vo.

This volume presents in an abridged manner, the several parts composing a body of anatomy; and also the peculiar opinions of Mr. Blandin on the development of the upper lip, the hymen, the descent of the testicle, the structure of the spleen, the arrangement of the valves of the deep-seated veins, and the distribution of the nerves of the larynx. In the first part, the art of making anatomical preparations is briefly related; the second part comprehends descriptive anatomy under its several divisions of osteology, syndesmology, myology; &c. and the third part treats of the anatomy of the regions. The plan of the work is after that of Maygrier's Manual of Anatomy, the text not being quite so laconic.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Singular Case of Malformed Heart.* By **Edward Blackmore**, M. D. of Plymouth.—The subject of this case, Hannah Kingdon, aged three years and a half, was first seen by Dr. B. on the 10th of November. She was said to have been born a fine baby, and that no ailment was remarked until she was two months old, when her skin appeared discoloured, and peeled off, as if after a fever. "From this period she remained *blue* and drooping, with a bad appetite and irregular bowels; at one time requiring astringents, at another purgatives. She suffered in dentition, but never had fits or vomiting. The full number of teeth were formed, but they all subsequently decayed except two. Micturition was habitually difficult; the extremities were alternately hot and cold, but always easily chilled, and of a deepening livid colour. She never walked alone, nor talked intelligibly. Her respiration was always quick, and at times so obscure as to be scarcely sensible. The chest appeared to the mother like that of a person always hurried and beating. Her diet consisted of bread and butter; but she never eat heartily. All her complaints were aggravated since her inoculation at the age of sixteen months. For the last three months she had violent cough, and the bowels discharged green matter for a fortnight past.

"She is now extremely puny, indeed more so than many infants only eight months old; yet not with the aspect of ordinary emaciation. The hands are turgid and of a dark blue colour; the face turgid and black, particularly the lips, like that of a person hanged; the gums are decaying; the tongue aphthous. She moans grievously. The chest is chicken-breasted; the arteries at the inferior part of the trachea are seen to pulsate violently; the heart's pulse is very vibratory to the hand; its rythm regular; the pulse at the wrist is small, very feeble, but regular. Her whole aspect indicated imperfect arterialization of the blood. It was impossible to mistake the *morbus cæruleus*.

"Some magnesia with rhubarb only was prescribed. On the 20th, after a flow of black blood from the mouth and nose, death speedily ensued."

Inspection twenty-four hours, P. M.—Extreme atrophy, particularly of the inferior limbs; a diffused livid discolouration of the trunk; lips black; mouth cankrous.

Chest. The heart so large as to hide and compress the lungs; the right auricle and ventricle, as it seemed, alone visible; and these were half as big again as the entire heart, in a subject of this age; the auricle and superior *vena cava* were greatly distended with black blood; the ventricle evidently vastly thickened and firm: four ounces of serum within the pleuræ; no pleuritic adhesions; one ounce in the pericardium. *Second* aspect on dissection. Lungs small, particularly the left; dense like flesh, even more so than the liver; of a deeper mahogany colour than natural, with no cadaverous lividity, as is common in the posterior parts; no tubercles, nor confirmed induration. The air tubes were filled with much frothy mucus; and the mucous coat of the large bronchi was like scarlet cloth. The left ventricle was extremely small in comparison with the right, but as big as is natural at the present age in health; where the left auricle should have been, only small muscular vestiges were found without cavity.

"After a nice dissection of the pericardium from the heart, on attempting to lay open what appeared to be the tip of the left auricle, the knife immediately entered a large single cavity, betwixt which and the left ventricle no communication existed, except through a small fissure; the natural ventricular opening being occluded by a firm adherent fleshy membrane. From the posterior superior part of the right ventricle arose the aorta much enlarged. Its coats were of a dark reddish hue, but the valves perfect. Immediately below the aorta a small pulmonary artery had its origin. The left ventricle held a small coagulum of black blood, which must have entered it by the fissure above described, and which was its sole outlet. Its substance was healthy. No *ductus arteriosus* remained. The valve betwixt the right ventricle and the single auricle was not quite perfect. On compressing the heart the aorta was instantly filled with coagulated blood, which must also have passed into the superior *vena cava* had not a fine arachnoid membrane occluded its mouth. The right auricle proper received as usual the trunk of the superior cava in the site of the *foramen ovale*, and around its orifice was attached the thin delicate membrane already mentioned. The two small pulmonary veins entered the inferior part of the left auricle, which was nearly obliterated, and one large vein entered its superior part. The *sinus venosus* of this auricle was about the size of a small bean. The auricular septum presented the *fossa ovalis* in its natural state, and without communication with the right auricle. It has, however, a direct communication with the left ventricle by means of a small fissure, through which the blood returning from the lungs must have passed, and thence into the right side of the heart. The ribs just where the cartilaginous portion begins, had each a large osseus tubercle, which pointed inwards and indented the lungs.

"*Abdomen.* The liver was very large, but natural in its texture. From its external aspect it seemed as if the right lobe had been imbued with a darker blood than the other parts. The gall-bladder contained bile of an ochrey-yellow colour; the spleen was very large and full of dark fluid blood; the intestines externally exhibited a diffused sublivid vascularity; internally the *valvulæ conniventes* of the ileum were of a dark red hue, vascular, elevated, and covered with what at first appeared to be chyle; but as similar matter was found in the colon, it must have been mucus, although very unlike healthy mucus. The stomach was healthy, but small. The mesentery was vascular and livid, and its glands large and darkish.

"The above case is highly valuable, as the malformation is so extreme, and in some points unexampled by any cases within the scope of the author's research; and, more particularly, as its living history is so perfect, and the life of its wretched subject was so singularly prolonged, that it greatly illustrates the physiology of the vital organs in health and disease. In most other cases of malformed heart, the previous history is imperfect, as Dr. Baillie remarks, and the continuance of life very brief, or the malformation more trivial.

"The tumid face, the hæmorrhage from the mouth, with the magnitude and colour of the liver and spleen, manifested that some constant obstacle existed to the free transmission of the blood through the lungs, or the right side of the heart; notwithstanding, as the dissection proved, the aorta freely admitted it from the ventricle. The proximate cause of death in Kingdon is certainly to be referred to the progressive carnification of the lungs, from which, as well as from the contracted size of the pulmonary artery, a stop was eventually put to the decarbonization of the vital fluid. May not the predisposition to this morbid change in the lungs have been derived from the preternatural circulation of blood, already more or less oxygenated in the branches of the pulmonary artery? It is not impossible, that in a warm climate, or at a more genial season than this severe incipient winter, the life of an individual with such a malformation as that now described may be prolonged.

"Her dwarfish form, the undeveloped mind, the impotence for muscular exertion, with the deciduous teeth, and the frigid skin, impressively illustrate the noxious influence of semi-decarbonized, or oxygenated blood on the functions of the body. The marvel here is, how existence was so far prolonged under such unnatural circumstances? It is important to reflect in what were the conditions of the circulation different in the present instance from the natural state. The blood returning at the same instant from the lungs and the general body, was commingled in the grand auricle, the contraction of which carried the greater portion into the right ventricle, and probably a little into the left ventricle. When these acted, the blood must have passed into the lungs, the aorta, and the single auricle again, where it would meet the waves returning from the *venæ cavæ* and the pulmonary veins; but the concussion of this reflux current would be mitigated, more particularly at the mouth of the superior cava, by the fine valvular membrane described above. A more perfect or more turbulent commixture, however, of the carbonated and oxygenated blood in the heart, could not have been effected, than in the present instance. And as, from the greater than natural disparity in the size of the aorta and pulmonary artery, the quantity of blood returning from the aortic system must have borne a larger than ordinary proportion to that from the lungs, itself also sub-oxygenated, the entire mass of the circulating blood in the arterial system must have been inestimably and increasingly more impure than in the natural state. Indeed there was here, most invariably, even in the cœrulean, a double source of the impurity of the blood in the aortic system. The grand anterior auricle must have held all the blood from the general and pulmonic venous systems; the right ventricle must have also received and projected this double measure, hence its enlarged capacity and vigour. The enormous dilatation of the aorta could not but ensue, more especially as the pulmonary artery admitted less than the usual quantity. In many points, and in respect of the mechanism of the circulation in all points, Kingdon's heart resembled that of a fish combined with that of a snail. The same ventricle was both systematic and pulmonic. 'Frogs, lizards, and serpents have a simple heart, *i. e.* a single auricle and ventricle. In the tortoise and turtle the two ventricles are united by an intermediate opening; but the turtle has two separate auricles, and the large arteries originate in the right ventricle, no vessel coming from the left. The greater circulation is so independent of the pulmonic that it could go on when the animal is prevented from respiring; the cessation of respiration, however, would impede the pulmonic circulation. Whereas in perfect warm-blooded animals, no blood can enter the aorta which has not first passed through the lungs into the left ventricle; hence an obstruction of respiration instantly influences the greater or aortic circulation.'" *Blumenbach.—Ed. Med. and Surg. Journ. April*, 1830.

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2. *Anomalies in the Distribution of some of the Veins.*—Meckel, in his *Arcív. für Anatomie und Physiologie*, for 1829, relates three interesting instances of anomalies in the venous system. The subject of the first was a man of sixty years of age, who had died from cancer of the œsophagus; a considerable venous trunk, originating in the left lung, and terminating in the subclavian of the same side, was observed.

The second case occurred in a hydrocephalic fœtus; the vena azygos opened into the left subclavian.

The subject of the third case was also a fœtus, and with hair-lip and division of the palate; the inferior vena cava followed the usual course of the vena azygos, and opened like the latter into the superior cava; the hepatic veins were united into a single trunk, and resembled in their disposition the inferior vena cava, penetrated the foramen of the latter in the diaphragm, and opened into the right auricle.

3. *Case of United Twins.*—A case of twins, united together like the Siamese youths, is related in the *Asiatic Journal*, No. 1. New series. "The children were females, and born at a village in Coimbatore, in the month of October, 1804. At the period of examination, October, 1807, they were, of course, three years old. One of them was thirty-four inches high, the other a quarter of an inch shorter. The heads of both were rather long, and the sides of each head much compressed; the features of each strongly resembled the other. The bodies were joined from the lower part of the breast-bone to the navel, which was common to both. They were thus face to face, and could sleep in no other position. In walking, they moved sideways, and sometimes circularly. They generally slept at the same time, but not always; and one would cry whilst the other did not. If the body of one was pinched, the other did not appear to feel; but if the connecting part was pinched, both were sensible of pain. Medicine administered to one affected both. The evacuations of each were regular, but at different periods. Both were healthy children, and not otherwise deformed. One was loquacious; the other talked very little; the liveliest was rather stouter than the other. Both had had the small-pox at the same time, and favourably. In moving or looking different ways, or rather in directions contrary to their natural position, they crossed their hands and arms. They could walk up stairs, and were active in playing with other children.

The mother of these girls was a woman of the weaver caste; she did not, according to the statement of the father who attended them, suffer particularly in bringing them into the world. The same woman subsequently was delivered of separate twins, which were living at the time when this examination took place."

4. *Malformation of the Heart.*—Professor Duges has published in the *Memorial des Hôpitaux du Midi et de la Clinique de Montpelier* for November last, a dissection of a female infant, which appeared to have died two or three days after birth, and in which the aorta originated from the right ventricle, and the pulmonary artery from the left; the vena cavas terminating as usual in the right auricle. The aorta after birth received only the blood of the right auricle—that of the vena cavas. The right side of the heart had no relation with the left, the pulmonary and general circulation being distinct; the only relation existing between them, consisted in the passage of a small portion of the blood, vivified by respiration, from the left ventricle into the aorta, through the ductus arteriosus, and a small quantity of the black blood from the right into the left auricle, through the foramen ovale, the valve not entirely closing this opening. The child exhibited the blue appearance indicative of derangement of the circulation.

PHYSIOLOGY.

5. *Experiments upon the Colouring of Different Tissues.*—M. Casimir Broussais, at a recent *concours*, had given to him, as the subject for his thesis, the following question. Can we distinguish by certain appearances in the dead body, the organic alterations which have commenced simultaneously with the disease, and those which are formed during its course, at the moment of, and after, death? In order to be enabled to answer this very important question, M. B. instituted a series of experiments, the conclusions derived from which we shall lay before our readers.

To treat this question clearly, usefully, and without repetition, M. B. thinks it convenient to divide the different lesions of the body into five species, as follows: alterations depending upon, 1st, acute inflammation; 2d, subacute or chronic inflammation; 3d, atony; 4th, physical causes during life; 5th, the dissolution of the organs and the fluids after death. The following are the principal results of his experiments.

1st. *The tissues that are perfectly white and completely exempt from inflammation*, do not become red on exposure to the air, as Professor Laennec has asserted.

2d. *The white and healthy tissues* redden on maceration in blood, some with greater and others with less facility; but it is to be remarked that this red colour soon becomes deep brown, and livid, if the maceration be continued beyond a certain time; moreover, the diaphanous pellicle which forms the exterior covering of the serous membranes, and similar to that which forms the internal surface of the arteries and veins, also becomes coloured; finally, if the maceration be continued longer than one day, the tissue commences to be friable. But if the tissues reddened by maceration in blood be placed in pure water, at the end of twenty-four hours, there will not remain any trace of the colour.

3d. *The red and inflamed tissues* suffer on maceration in pure water the following changes: if they have a very slight redness, this disappears after maceration, and reappears on exposure of the tissue to the air; but if the redness be very bright and deep, it loses only a little of its intensity. Membranes with several spots of chronic inflammation, around which recent inflammation was developed, exhibited phenomena the most interesting and confirmatory of the principles of my father in relation to circumscribed local phlegmasiæ.

4th. *In the serous and sanguineous vessels*, the diaphanous membrane of which we have spoken, does not become red from inflammation, at least unless the irritating cause acts upon it directly, or unless in the progress of the disease, the redness has passed from the subjacent tissue to it, which is of very rare and difficult occurrence.

5th. *The redness caused by imbibition, from maceration*, is not rose-coloured, except at first; it soon becomes of a deep shade and livid; it is always uniform, and never in points or arborescent; finally, it readily and completely disappears on maceration in pure water.

6th. The redness from inflammation is sometimes arborescent and in points; but it is often also uniform, as the injection of ammonia into the carotid of a dog has proved. In this last case it may be deep coloured and black, but not livid, as when coloured by imbibition, and when it does appear similar to this last, it may be easily distinguished, since it does not disappear by maceration in pure water. If, on the contrary, it be light and rose-coloured, it then has a liveliness of colour which belongs only to it; moreover, although it disappears by washing like slight colouring from imbibition, it does so less readily; finally, what is a curious fact, if after this light redness has been made to disappear by washing, the tissue be exposed to the air, the colour soon reappears, which never takes place in tissues coloured by imbibition of blood.—*Annales de la Médecine Physiologique, January*, 1830.

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6. *Very Remarkable Case of Twins.*—This singular case is related by Dr. De Meza, in the *Bibliothek for Laeger*, a journal published in Copenhagen, and edited by the celebrated Dr. C. Otto—we are indebted for a notice of it to the *Bull. des Sc. Med.* for January last. A very delicate woman, who had had many children, fell down a flight of stairs when in the fourth month of pregnancy; was attacked with pain in the loins, her left breast became flaccid, and she aborted—the fœtus was a female. Nevertheless the abdomen continued hard and enlarged, increased progressively, and all the symptoms of pregnancy were developed. Five months after the abortion she was delivered of a child, feeble, but viable. When seen by Dr. De Meza, a year and a half after his birth, he was affected with rickets. Dr. M. thinks that the mother had a double uterus.

7. *Researches on Pulmonary Absorption and Exhalation.*—M. **Collard de Martigny**, concludes from his experimental researches on this subject, 1st, that there occurs at the same time in the lungs an absorption of oxygen and an excretion of carbonic acid, of azote, and of serosity; an imbibition of oxygen and azote, and an exhalation of azote and of carbonic acid; 2d, that the two first of these actions constitute the functions of respiration; the two others are common to all the organic surfaces; 3d, the oxygen absorbed in the lungs immediately combines there with the blood, and does not circulate in its free state; 4th, the carbonic acid expired is a product of the assimilative decomposition, (*decomposition assimilatrice,*) secreted in the capillaries and excreted by the lungs; 5th, the azote expired appears to be a secretion from the blood itself, effected instantly in the lungs; 6th, the perspiratory serosity is deposited on the surface of the lungs by organic exhalation and dissipated by evaporation; 7th, the theory of Lavoisier respecting respiration is a gratuitous hypothesis; 8th, this function should be considered as a complete series of actions appertaining to the *general assimilation.*—*Révue Médicale, Feb.* 1830.

8. *Experimental Researches on the Gaseous Exhalation from the Skin.* By M. **Collard de Martigny.**—The gaseous exhalation from the skin is constantly in inverse proportion to the cutaneous absorption, and the proportion of the two gases which constitute this secreted air, varies much; sometimes it consists almost entirely of azote. M. Barruel says that he has never found this last gas; and according to M. C. in some cases, the proportion of carbonic acid is so great that it seems to be the only product of the cutaneous exhalation, as was supposed by Milly, Cruickshanks, Jurine, and Abernethy.

M. Collard de Martigny is convinced, however, that the nature of this exhalation depends upon the nature of the aliment. Thus, when an abundance of animal food is taken, the proportion of azote is very great; whilst after dieting, or after the long-continued use of vegetables, carbonic acid predominates. A number of experiments are related confirmatory of these views.—*Rév. Méd. Feb.* 1830.

9. *Vaccine Virus.*—Dr. **Robert**, physician to the Lazaretto at Marseilles, is of opinion, that cow's milk communicates to the variolous virus the properties of vaccine virus. Thirteen experiments have been made by him, and communicated to the Institute of France, which seem to show that the virus of variola and varioloid combined with cow's milk, when used for inoculation, produces only a local eruption, similar to that of vaccina, proving he thinks, that the vaccine disease originated in the accidental transmission of the variolous virus from man to the cow's teat, which is the cause of its mildness.—*Journal de Chimie Méd. March,* 1830.

10. *Small-pox occurring twice in the same individual.*—Dr. **Oppert** of Berlin, relates in *Rust's Magazin,* T. XXX. the case of a girl who at six years of age, had confluent small-pox. Seventeen years afterwards, she was again attacked with the disease, and it proved fatal during the suppurative stage.

PATHOLOGY.

11. *On the Morbid Anatomy of Fever.*—The *Glasgow Medical Journal,* for August, 1829, contains an exceedingly valuable and interesting memoir on this subject, by **Alexander J. Hannay, M. D.** Professor of Medicine in the Andersonian University. His observations might be condensed, but we depart from our usual practice in this respect, and give them entire, that the reader may be able to form a more precise estimate of their conclusiveness. The author does not offer unmeaning phrases and idle hypotheses in explanation of the phenomena of fever; he relates facts—and he solicits attention to them. The object

of this paper is to describe briefly the morbid appearances presented in the bodies of those dying of what has been called idiopathic fevers. These fevers, or "those febrile symptoms which the feeble eye of pathology, could not, at that time, trace to some 'local habitation' in the body, were supposed to be independent of the affection of a part; they were considered as depending upon causes affecting the whole frame. *Pathology now demonstrates that inflammation may proceed in many textures without presenting all the characters which nosologists deem so essential to it; nay, that important textures may suffer complete disorganization by inflammatory processes, without giving any local note of their suffering.* But though the local phenomena of inflammation escape detection, the sympathy that unites all the organs, developes symptoms by which its existence is made known. Such, in the opinion of many enlightened and experienced pathologists, is idiopathic fever; many pathologists, I say, maintain that fever is always dependent on some local inflammatory action, which, though itself eluding detection, developes a train of symptoms, in the important organs and textures which come under our immediate notice. It has been deprived of its essentiality and independent nature—reduced to the rank of a secondary or symptomatic disease. Without entering further at present into the merits of these views, I may be allowed to express my approbation of them, not merely on account of their establishment of uniformity and the infusion of principle into practice, but, as being most consonant to analogy, to the phenomena of the disease, and to the morbid appearances.

"There is much discrepancy of opinion as to the organs and tissues in which these inflammatory actions take place. The contents of the calvarium and spine, the nerves, the blood-vessels, and the mucous lining of the alimentary canal, have all individually been asserted to be the exclusive seat of the affections, of which the phenomena of fever are the constitutional or general indications. Some conceive that one texture is exclusively and invariably affected, whilst a more general view ascribes to the inflammatory conditions of any one of these organs, and textures, the power of developing the febrile symptoms.

"Morbid anatomy has been appealed to, in the settlement of this matter. But many circumstances retard the attainment of truth through this medium; the frequent complication of the disease stands foremost among these; next the *slovenly and careless method of conducting dissections;* and *lastly, the prejudices of observers who have espoused peculiar views.* Avoiding with all possible care the last two, I have attempted as far as inspection after death can, to unravel these complications, by observing if any texture or organ be constantly and invariably in a morbid condition, as some have asserted—and therefore more entitled to be regarded in the light of a cause; or whether they are only occasionally affected, and so may be considered as supervening, or viewed as a consequence of the febrile disease.

"There are few textures of the human body which have not in some cases of fever or another, been found in a state of disease. The brain and its membranes, the mucous lining of the air passages, the organs and membranes of the chest, the contents of the abdomen, and the pelvic viscera, have all suffered changes and destruction of their texture. The skin, the cellular membrane, and the muscular fibre, are frequently affected, and there is reason to believe that the bones have had organic disease established in their investiture and texture, during, and in consequence of an attack of fever. We shall examine the effects of these morbid appearances, one by one, and in detail.

"We begin with the contents of the *Cranium.* Simple vascular injection is by far the most frequent appearance in this cavity. The vessels are very large both on the dura mater and on the subjacent membranes. On tearing the attachments between the scull-cap and the dura mater, we frequently observe numerous red specks which have their origin in the blood, poured out from the orifices of the ruptured vessels. The brain also, and the membrane lining the ventricles, are more vascular than natural. Sections of the cerebral structure present innumerable bloody points. The venous tubes are gorged with blood, and I have twice observed the arteries in a similar state. There is often fluid in the ventricles of variable quantity and appearance; I have seen from five to six ounces. It is at one time clear and limpid, at another of a pale red colour. In the more acute fevers of the tropics, the vascular action reaches such a degree of violence as to pour out blood between the membranes and into the texture and cavities of the brain, giving rise to apoplectic symptoms; this is occasionally seen even in the malignant epidemics of Europe. There is likewise an effusion often met with under the tunica arachnoidea: this membrane becomes opaque, and presents the appearance of an effusion of coagulable lymph.[*]

"The most part of the appearances we have described are referred to mere congestion; they are not considered as that disorganizing action which constitutes *inflammation;* this, however, presents itself under various forms.

"Increased vascular arborescence, and consequent redness, with thickening and opacity of the membranes in different parts; serous and bloody effusions into the cavities, or between the membranes, are the *vestigia* of inflammatory action, occasionally seen on inspecting those who die of the continued fevers of this country. There are likewise abscesses found in the texture of the brain, and I have seen some, and heard of many cases, where pus and coagulable lymph were diffused over the whole surface of the membranes.

"Portions of the brain present a softened appearance. The extent of the *ramollissemens* are very various, some not exceeding the size of a hazel nut, others an inch and more in diameter. In some cases, the brain is throughout unusually soft, infiltrated, or injected with serum. Sometimes it is firmer than in ordinary cases. The brain of a girl, who died of the common continued fever of this country in 1824, presented a most remarkable hardness, without any very unusual vascularity or appearance of disease in the other textures of the cavity.

"On dividing the medulla oblongata in the progress of the dissection, we have often a copious discharge of a limpid fluid from the theca vertebralis. I have repeatedly seen several ounces of this secretion gradually flow from the spinal canal. The difficulties of opening the spine have too often deterred me from inspecting the contents of its canal. In four inspections it was quite free from apparent disease. In one there was unequivocal softening in the lower part of the cervical portion, with increased vascularity of the meninges. This woman died convulsed and insensible in the early stage of continued fever. The minutest pathological scrutiny of the brain and spinal marrow I ever witnessed, was in one of the four cases above mentioned; the lad was seized with symptoms of continued fever, after exposure to contagion: he died in a few days convulsed and comatose; no morbid appearance of the cerebral organs or its appendix was found.

"I have examined the large nerves in several who have died of fever. Very often they have a redder aspect than natural; the redness is only partial. I have never seen any appearances which could be regarded as the effects of inflammation. In two individuals who died of typhus gravior of a most marked character, Andral found the semilunar ganglions deeply red and injected.

"I have attempted, in my investigations of those appearances, to ascertain their relation to the progress and periods of the disease. Individual experience can accomplish but little here; and I entreat the attention of future observers to this important matter. I think I have observed, that in those who die early in the course of the disease, there is little more than a simple increase of the vascularity, turgescence, and other marks of congestion. The effects of inflammation are usually met with in those who have undergone a protracted attack: and these are numerous and extensive, in proportion to the protraction of the disease. The cases in which Sir J. Pringle found abscess of the brain, were remarkably lingering. The cerebral affections have been observed in the fevers of every climate; and their frequency has been construed into constancy of appearance. Hence some, as is now well known, wish to consider them as the pathological conditions of the body, upon which certain fevers exclusively depend. To establish this exclusive hypothesis, it would be necessary to show that cerebral disease is *always* present. Pathological investigation does not countenance such an opinion; it only proves that cerebral affection, though a frequent, is not an universal occurrence. I have had many convincing proofs of this, even in cases where the symptoms, during life, induced a belief that much cerebral affection should be found. In many of my inspections, not the slightest appearance of disease in this cavity was detected, whether the subject of them had lingered long, or sunk under an early attack. The testimony of many observers, who have specially directed their attention to this point, could be adduced to prove the absence of cerebral disease in cases of fever. It appears to me, then, that this hypothesis must be relinquished. Much benefit has accrued, however, from investigation in this direction. We are now well convinced of the frequent tendencies of disease to this important cavity, and how watchful an eye should be turned to it, in the progress and management of what are denominated idiopathic fevers. They, to whom therapeutic experience has shown the benefits of vigorous, yet judicious antiphlogistic treatment in such affections, will have proofs, almost to demonstration, afforded them of the propriety of such measures; and they who may be undecided amidst the conflict of opinion, will have their minds confirmed in principles of the highest practical importance.

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[*] Morgagni observed this source of deception. I may remark that I have never observed effusion of coagulable lymph on this tunic, except in conjunction with purulent matter; others report they have. Where, however, *matter* was found effused on this membrane, I have observed attempts to limit its extension by flakes of this connecting medium.

"*Thorax.* The mucous lining of this cavity frequently presents morbid appearances after death from fevers. In a very large proportion of the inspections which I have witnessed, there existed increased vascularity and correspondent redness; sometimes thickening and softening of this tissue, and very frequently there is yellow purulent looking mucus smearing the trachea, or filling the bronchial ramifications. Inflammation of the pulmonary texture, and of the serous membranes of the chest, frequently supervenes in febrile diseases. Dissection then displays every consequence of congestion and increased action in the thoracic organs. Of these, I have met with simple *engorgement* of the parenchyma, with blood or serous fluid, (œdema pulmonum,) and *hepatization* of all degrees. The only case of gangrene of the lung I ever met with, was found in a man who sunk in fever of a typhoid character. We predicted, from the horrible and peculiar stench of the breath, that this state of the lung existed. Some writers speak of mortification of the lungs as by no means an unfrequent event. Eisfield, in particular, found it in many cases of those dying of the Leipsic epidemic, in 1799. It is, however, probable that he and others have mistaken the *softened* state of the lungs for gangrene of these organs. This very curious change of texture is certainly uncommon in fevers of this country, for I have never met with an instance in the numerous inspections I have witnessed. It resembles the texture of the spleen, reduced to a remarkable degree of softness—and therefore denominated, by Andral, '*ramollissement pultacé.*' He observed it most frequently in cases of 'adynamique' fever, or asthenic of Brown, and putrid of earlier authors. It does not present the same degree of disorganization as gangrene, and is exempt from the horrible fœtor, characteristic of that condition.

"I have seen almost every morbid appearance which results from inflammation of the pleura. Some of these, obviously the consequence of old affections, others no less unequivocally of recent origin, and going on during the fatal attack. Effusions of coagulable lymph, in form of bands and flakes, uniting parts naturally separate, are frequent *post mortem* appearances of our common continued fever; sometimes without any fluid, sometimes with sero-purulent effusion in considerable quantity. Andral found the fluid effused to have a bloody tinge in four cases, without any other trace of inflammation. The diaphragm is stated by Thiebault, to have been sometimes involved in the inflammatory affections of the fever which raged at Leghorn in 1804.

"I have never remarked any thing particular in the appearance of the heart. The softness of it is not greater than in many other diseases. The clots and blood which it and the large vessels contain, are various, but present nothing, as far as I can discern, capable of elucidating the nature of fever. The quantity of blood found in the heart varies from a few drops to a considerable amount; at one time it is fluid, at another coagulated; sometimes it is nearly of a black colour, at other times of a more florid hue. The speculations which have been hazarded by pathological writers on the morbid appearances of the blood in fevers, do not appear to me to merit recapitulation.

"It has been asserted, that redness of an inflammatory kind, on the inner coats of the arteries, is often met with in fevers. I have in many dissections directed my attention to this point, but never detected any appearance that could be referred to inflammation. The redness which does appear cedes to washing with water, a process which, when not protracted to maceration, has not the effect of removing the *blush* of an artery or vein unequivocally inflamed. It has been regarded by some as a mere dyeing of the vessel by its contents. The true nature of this red tinge, however, still demands investigation. It occurs occasionally in vessels quite emptied of blood. An experiment narrated by Andral, and which I have confirmed on repetition, proves that the redness is, at all events, due to a vital process of some kind or another. A blood-vessel, separated from the body, and filled with blood, does not assume this red hue, even after they shall have been many hours in contact.

"The affections of the thoracic organs come on at very different periods in the course of the disease. In our continued fevers, the pulmonary irritations supervene *gradually*, especially in cases referrible to contagion. In some epidemics during cold and moist seasons, they are early and common; and from the frequent exposures of an army, the histories of the febrile diseases attacking such bodies of men often present these complications. In conclusion, I may remark, that, with the exception of those of the mucous texture perhaps, there is not one of the morbid appearances in the organs of the chest which uniformly occurs. I have noted the absence of every one of them in the fevers of this country, and could refer to authors to show the same fact in other climates, and periods of pathological history.

"*Abdomen.* The serous texture or membrane of the abdomen sometimes presents the *vestigia* of inflammation. Various preternatural adhesions of the organs to each other, and of these to the *parietes*, are now and then found. Patches of coagulable lymph give a coating to portions of the serous surfaces, and sero-purulent effusion fills the cavity in various degrees. These inflammatory appearances, however, are not common, as I have witnessed more than fifty dissections of persons dying of the epidemics of 1816, 17, 18, and 19, in which no trace of inflammation of the abdominal serous membrane was discovered.

"The abdominal venous system is often gorged with blood. This has no relation to the inflammatory state, and occurs without any of its characters in the serous textures.

"The liver was most frequently free from disease. I have seen it participate in the state of venous congestion described, but with this exception perhaps, every morbid appearance I have observed in the livers of those who died of fever, was independent of the febrile affection. As to its secretion, its varied quantity and appearance set description at defiance—and nothing satisfactory can be deduced from this source.

"I have found the spleen enlarged and softer than natural; though it was most unfrequently free from disease. Andral's extensive experience presents a different result. He states that augmentation of volume and modification of its consistence, are at least as constant as the lesion of the alimentary canal. In some it was softened to an extreme degree, and in others gorged with black blood. I have seen it larger than natural, and very dense, and Andral has observed it as hard as liver, yet without any augmentation of volume.

"I have not regularly examined the pancreas. Where I have attended to this organ, I never saw any deviation from the ordinary appearance. It has been found enlarged, and injected with blood. In one case this condition coexisted with an enlarged parotid gland—a fact upon which an analogy between the pancreas and the salivary glands may be presumed.

"The mucous tissue or villous coat of the alimentary canal presented morbid appearances in *every* case I have inspected. They are very variable; increased vascularity—deviations from the natural colour—tumefaction, either extensive or partial—softening—and ulceration, were the most frequent.

"The most common appearance of the mucous tissue after death of fever, is increased vascularity, with thickening and softening of the membrane, and of its adhesions to the texture next to it; it is therefore easily lacerated or scraped off from these parts. The vascularity varies in degree; sometimes the vessels still preserve their outline, and present an arborescent appearance, the mucous texture in which they are ramified still retaining its natural, pale straw colour; at other times, from an extravasation and injection of blood into the texture of this coat of the intestine, it attains so great a degree of redness, that the vessels cannot be traced on it. In this state, it prevents the transmission of light, and appears of a dark colour through the serous coat of the intestine, which, when laid open, often presents the appearance of a thin layer of black currant jelly, spread over the surface of the canal. The extent of surface thus affected is extremely various. I have seen it occupy, in different degrees, the whole track of the stomach and small intestines; much oftener, however, it is of only limited extent, and of a less deep hue. The colour varies from a pale rose up to the dark red mentioned above. I have seen it in specks, and looking as if the part had been sprinkled with *red precipitate*.

"That all this vascularity and injection is in the mucous coat, is easily demonstrated; in removing, by dissection, this tissue, you leave the others quite transparent, and almost without a vessel. It is remarkable that portions of the mucous lining of the canal, between these morbid patches, often appear quite free from disease. Sometimes the intervening part, though pale, is thickened, easily scraped off, and obviously in a state of disease. I have more constantly met with these appearances in the duodenum and in the course of the ilium, than any where else—more frequently than in the stomach, where the mucous coat is sometimes of a purplish-brown colour, over a surface whose extent varies from the size of half a crown to the palm of the hand. I have seen this brownish appearance disposed in streaks of various breadth, following the arborescent course of the large vessels of the stomach; on other occasions it is in irregular patches. It is also found on the small intestines, where as well as in the stomach, it accompanies other morbid changes of the texture. I was at one time disposed to regard this condition as occurring only in those who lingered long in the disease, and as constituting an approach to gangrene, but it is met with in all stages—even the earliest

"The mucous tissue is *thickened* over various extents, and in different degrees; sometimes in regular, often in most irregular patches. The thickened and projecting portions are sometimes red of various shades, and at other times of a pale yellow colour, even paler than the surrounding mucous texture; this, some consider as a termination of the inflammation of this texture in a kind of induration. These appearances I have most frequently found at the lower portion of the ilium.

"When the membrane is thickened, it is often remarkably soft or pultaceous, and this *ramollissement* may be accompanied either with a highly injected, or an exsanguineous state of the tissue. I have met with the pustular and papular elevations, which Lerminier proposes to call "internal exanthemata." They are like the variolous papula and pustule on the surface of the body. They appear to have a mucous follicle for their nucleus—to be a development of one or more of these bodies by inflammation. I have met some which seemed more superficial, and not to involve, or be connected with the follicles, in short, to be a pustular eruption of the mucous coat, independent of these glandules. It may, however, be remarked, that these pustular looking elevations occur most frequently in those portions of the canal where the mucous follicles are most numerous, which countenances the opinion of those who refer them to development of these bodies by inflammation. It is highly probable, that many of the ulcers commence in these pustules; their top either bursts or is eroded, and from this, as a centre, the destruction proceeds.

"I have twice met with partial elevations of the mucous coat studded with black points, somewhat resembling the surface of a white strawberry. In both cases, these elevated portions were pretty numerous: some were larger than a shilling, and others not the tenth part of this extent. In one case, of which I have a delineation, there were numerous elevations on the mucous surface of the size of a large pin's head, from the centre of which a little black *queue* projected; the blackness of the tail had the appearance of being all exterior to the mucous coat.

"It were endless to mention every variety of excrescence on the alimentary mucous tissue of those who perish of fever. The most remarkable I have seen were dark granular masses, about the size of a little finger, firmly attached to the bands of the colon. They were very irregular, and covered with a layer of coagulated blood, which was readily removed. After maceration in water for twenty-four hours, they separated from the mucous coat, and were converted into clay-coloured masses, showing that they were secretions from, and not degenerations of that tissue, as they at first appeared. I have only seen this once. The woman had copious uterine hæmorrhage at the close of the disease, but no blood was noticed in the alvine evacuations.

"Ulceration is a most frequent result of these processes in the inner coat of the alimentary canal. The extent, form, and appearance of the ulcers are very variable. Sometimes they resemble a simple abrasion in patches of very different size and figure; at one time the edges are smooth and abrupt, at another rugged and unequally fringed; very often the margin is thickened and everted, or somewhat like the edge of a callous ulcer on the surface of the body. They affect the intestine to various depths, involving in succession the muscular and serous coats. There are cases in which a perforation of the intestine has been thus accomplished; of course, a fatal peritonæal inflammation was the consequence. The mucous surface surrounding the ulcers presents appearances of inflammation in by far the greatest number of cases; but we occasionally meet with them in the midst of mucous texture apparently healthy. The cases in which this occurred were always protracted; indeed, though observed in all stages of fever, they were most frequently found in those who had attained the advanced period of the disease. It does occasionally happen, that a single spot of ulceration is found, but for the most part there are several, which, if they be near each other, unite sooner or later, as their circumferences enlarge by the destructive process. They are met with in all stages of the disease. Their edges sink down and gradually approach each other, forming, by their junction, a little projection; this seems to be subsequently absorbed, and a hollow or depression remains. The site of such *cicatrices* can sometimes be detected on the outer or serous coat of the intestine, by the contraction and puckering.

"I have never found an abscess amongst the coats of the intestines, nor observed gangrenous destruction of the intestinal parietes in a case of idiopathic fever. The limitation of the inflammatory process to the mucous coat accounts for this, and affords another proof how exclusively that texture is the seat of the morbid conditions now under consideration; for were the other textures often affected, we should occasionally find puriform infiltrations or abscesses amongst the coats of the canal.

"The intestines are occasionally charged with secretions from the mucous texture, modified by its diseased state. These secretions are sometimes thin and watery, bloody occasionally, and often tinged with bile, and frequently also a viscid pale straw-coloured matter smears large portions of the mucous surface.

I have been often struck with the emptiness of the canal, where, had the patient lived longer, he would have been drenched with cathartic medicines, with a view of removing the loaded state that was supposed to exist.

"I have found two cases of introsusception, but without compression or inflammation of the exterior coverings of the intestine. In one case, (of a child,) the upper portion had descended into the lower to the length of two inches.

"The contracted appearance of the tube is often remarkable. Sometimes the stomach is reduced, in every direction, to half its dimensions. Its inner surface then presents numerous folds or plaits, usually of an unnatural colour. This state does not occur in every case of inflamed stomach or intestine, and I have found the intestine contracted to the size of a finger, yet without any apparent affection of its textures; very frequently large portions of the canal are contracted, and withdrawn, as it were, behind other folds, which are distended and projected to an enormous degree; the colon is often in this state, and when the cavity is laid open, is found to conceal nearly the whole of the abdominal contents. The mesenteric glands are frequently in an inflamed state, as was long ago shown by M. Petit. This is usually accompanied by some alteration of texture in the intestinal tube, probable always in that portion of it from which the vessels that pass through the glands take their origin. I have seen these glands indurated and enlarged; sometimes dark-coloured, sometimes of a pale brown, and of a dull ash colour. The last-mentioned appearance indicates a total destruction of their texture, and is accompanied by a semifluid matter of a dull or dirty white colour, enclosed in the external membrane of the gland, as in a little pouch, to which it usually adheres from its viscid or tenacious nature.

"I have repeatedly seen the mucous membrane of the urinary apparatus red and thickened.

"I once inspected a case of very protracted fever, in which innumerable abscesses were found in the substance of the muscles. No symptoms had indicated them during life; and the first evidence we had of their existence, was the section of one in the pectoral muscle in the progress of the dissection. Such are the morbid appearances of which I shall, in my next paper, consider the relation to the symptoms of idiopathic fever."

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12. *Hernia of the Stomach, with Enormous Enlargement of that Organ.*—This case was communicated to the Royal Academy of Medicine by M. Yvan. The subject of it was a soldier, who for some years had had a scrotal hernia, which could be easily reduced by taxis, but could not be kept up; it gradually increased in size, and a month previously to his death repeated vomiting took place, which could not be arrested, although there was no strangulation, and the patient died. On examination, the abdominal ring was found to be enormously distended, measuring eighteen inches in circumference; the hernial sac contained the inferior third of the stomach, the greater omentum, the small intestines, and the large intestine, except the iliac portion of the colon, the cœcum, and the rectum. The stomach, situated parallel to the axis of the body, was of an enormous volume, and seemed divided by a circular depression into two portions; the one situated in the abdomen, the other in the hernial sac. The length of the great curvature of the stomach was three feet, that of the lesser curvature eighteen inches; its circumference at its largest part twenty inches, and contained nearly eleven pints, (*five litres,*) of fluid. Longitudinal and circular muscular fibres were observed on the surface of this organ. M. Y. deposited the stomach in the Museum of the Academy.—*Archives Générales, Jan.* 1830, *and Révue Médicale, Feb.* 1830.

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13. *Crepitating Rattle.*—According to M. Guesne, two conditions are necessary for the production of the crepitating rattle; 1st, a certain viscidity of the bronchial humour, the small bubbles of which are successively broken by the passage of the air; 2d, sufficient energy in the expiratory forces. The absence of this last condition in old men, the bronchiæ of whom are besides very much di-

lated, renders the crepitating rattle a very rare occurrence in them even in pneumonia. The lungs of children, for the opposite reason, may become the seat of the crepitating rattle, even without the existence of any inflammation of their parenchyma. The great viscidity of the expectoration in pneumonia, a peculiarity much insisted on by many authors, and among others by Laennec, appears to support the opinion of M. Guesne, respecting the conditions necessary to the formation of the crepitating rattle.—*Revue Méd. Feb.* 1830.

14. *Poisoning by Cantharides in Powder, followed by the Expulsion of the Mucous Membrane of the Œsophagus.* By M. Rouquairol.—A shoemaker, aged forty-six, poisoned himself, June 8th, 1826, by swallowing cantharides. Three hours afterwards, when Dr. Rouquairol saw him, he was affected with the following symptoms; burning heat of the mouth, throat, and stomach; pains in the kidneys and bladder, with incessant but ineffectual desire to void urine; mouth excoriated; ptyalism; nausea, vomiting; tongue trembling; convulsive movements; priapism; contracted and frequent pulse; in the matter vomited, portions of mucous membrane and of cantharides could be recognised. Dr. R. administered half a pint of olive oil, and soon afterwards twenty grains of ipecacuanha, which induced vomiting. He gave the olive oil because it dissolves the active principle of the cantharides, is an article not easily digested, and is much less readily assimilated than milk or any other similar substance. The quantity of the poison taken had evidently been large, judging from the quantity seen in the matters vomited. The patient was afterwards forced to swallow two pints of olive oil, and half an hour afterwards two ounces of castor oil; these produced copious evacuations from the bowels, containing a large quantity of cantharides; the doses of olive oil and castor oil were repeated, and with the same results. Evening. Convulsive movements; continual priapism, bloody urine; febrile heat of the abdomen; frequent contracted pulse; subsultus tendinum; pains in the throat, stomach, kidneys, and bladder continue. Ordered olive oil by the mouth and anus, ten leeches to the neck, twenty to the epigastrium, and twenty to the perinæum; afterwards patient to be placed in a tepid bath for three-quarters of an hour.

The next day there was a slight abatement of the symptoms, except the pain in the bladder; thirty leeches were applied to this part, and flaxseed tea for drink, emollient enemata, and a tepid bath were ordered. Evening. More calm—but at eleven o'clock vomiting recurred, and the entire mucous membrane of the œsophagus was discharged.

June 10th. Better; same prescription as last night, except the leeches, deglutition extremely painful.

The patient from this time gradually improved, and on the 22d of June he took some solid food. He now enjoys perfect health, better than he did before his poisoning, when he was affected with a chronic duodeno-hepatitis, which at times became acute.

Not the least interesting and remarkable circumstance in this case is the expulsion of the mucous membrane of the œsophagus, which took place with much pain, accompanied with the discharge of blood. Its middle portion for an inch and a half was entire, and formed a tube, the extremities of which were ragged. Some particles of cantharides were adhering to its internal surface, on its external surface, blood-vessels running longitudinally, as also folds or pleats in the same direction were perceptible. One of these vessels was so large, that blood was pressed out of it after puncturing it with a lancet; this membrane could not of course have been an adventitious one.—*Annales de la Médecine Physiologique, Oct.* 1829.

15. *Meningitis and Abscess in the Left Corpus Striatum.*—A labourer, fifty years of age, of a strong constitution, was admitted into the Hôtel-Dieu, November 14th, after having been affected during a fortnight with continual head-ache, especially on the left side. His manner and external appearance ex-

hibited nothing unusual, his appetite was very good, and he complained only of restlessness, head-ache, and constipation. He was bled, and took an aperient mixture; this not being followed by any relief, he had, on the 17th, twenty-five leeches applied to the anus. During the following night, he was seized with bilious vomiting; the head-ache had not, in the least, abated. Appl. hirud. xx. post aures. Sensibility and muscular power were not in the least impaired; the patient complained, however, of violent pain in the limbs when they were moved; the vomiting and costiveness still continued. On the 22d the head was covered with ice, sinapisms were applied to the feet, and a poultice to the abdomen. The head-ache and violent pain in the limbs on the least motion continued as before; the face was not distorted; the tongue easily put out in a straight direction; speech was feeble, but articulation distinct; the slightest touch of the head caused the most excruciating pain; his mind was not in the least affected, and he appeared to be perfectly sensible. In this state he remained without any alteration; the sickness and head-ache were undiminished: the limbs neither paralysed nor contracted; the head only was slightly inclined towards the left side; he died rather suddenly on the morning of the 29th without a struggle. *The intellectual faculties were unimpaired to the last moment.*

On examination, the brain was found rather voluminous, the pia mater much injected, and, at the pons varolii, infiltrated with thick yellowish matter. The cortical substance was of a pink colour, and rather softened; the medullary substance injected. The lateral ventricles contained about two ounces of very thick greenish purulent matter, the pia mater lining them was apparently inflamed. The external side of the left optic thalamus was ulcerated, and covered with similar matter; the left corpus striatum was larger than usual, greatly softened, and contained a purulent excavation; the parietes of the third and fourth ventricles were evidently inflamed, the cerebellum rather soft, and somewhat injected.—*Lancet Française.*

16. *Case of Otitis, with discharge, terminating in the formation of Abscesses within the head.*—A man, aged twenty-four, was admitted into St. Thomas's Hospital, Dec. 11th, 1829. From infancy he had been subject to discharge from his ear, and latterly it had been constantly attended with a disagreeable smell. During this time, he experienced considerable pain in his head; indeed, so much so, that at times he was quite frantic; and blood was sometimes discharged from his ear. Within the last fortnight, he has been scarcely ever free from pain. On admission, he had a swelling on the left side of the head, particularly above the ear, first observed about two weeks ago. An obscure sense of fluctuation could be perceived—a puncture was made, and a small quantity of rather offensive matter evacuated. A poultice was applied to the part. The next evening he became restless; delirium supervened; he became unconscious of what was going on around him; the following evening he was attacked with convulsions, sunk rapidly, and died.

Inspectio Cadaveris.—On examination of the head externally, the periosteum was found denuded from the squamous plate of the temporal bone, nearly two inches in diameter, while the temporal muscles was in a sloughy state. On opening the cranium, a circumscribed abscess was found between the dura mater and bone, corresponding to that which was situated externally: this contained upwards of half an ounce of unhealthy looking pus, having an offensive smell. The middle cerebral lobe corresponding to this, was of a green colour, and softer than natural: when cut into, an abscess was found, about the size of a hen's egg, containing fœtid pus. The posterior lobe on the opposite side was also cut into, and gave exit to a quantity of pus; and on continuing the examination after the brain had been hardened by alcohol and a horizontal section, made so as to expose the lateral ventricles, a communication was found between the abscess and neighbouring ventricle. On inspection of the ear, the meatus auditorius externus showed long fungous granulations, arising from the membrana tympani; but a minute examination did not detect a communication between the external ear and the abscess between the dura mater and skull.

17. *Case of Uterine Phlebitis, with Inflammation of the substance of the Uterus, and Pus in the Absorbents.*—A woman, aged about thirty, was admitted into St. George's Hospital, under the care of Cæsar Hawkins, Esq. July 1st, 1829, with sloughing of the skin to some extent over a diseased bursa of the patella. The bursa was removed, which was a quarter of an inch thick, and a granulating surface established without much constitutional disturbance. On the 14th she was delivered of an ill-grown child, which soon died.

"On the 16th, symptoms of puerperal peritonitis of a low character made their appearance, which was fatal on the 18th; the pain, I understand, was completely relieved by bleeding, but she never rallied after the commencement of the attack.

"Some puriform lymph was found in the pelvis, but with no increase of vascularity in the peritoneum. A considerable quantity of the same kind of fluid was situated round the whole of the lower part of the uterus beneath the peritoneum, and in the cellular membrane among the fibres of the uterus, but none had been effused at the fundus.

"In the broad ligaments some fluid was also effused, and on each side numerous large absorbent vessels were discovered passing up with the spermatic vessels to the receptaculum chyli, which was unusually distended. All these vessels and the reservoir itself were quite filled with fluid pus, but that in the receptaculum was mixed with lymph so as to be more solid; the vessels themselves were firmer and thicker than usual. The thoracic duct above this part was quite healthy, and contained only transparent lymph. The spermatic and uterine veins were all healthy. The uterus was scarcely contracted at all, and the internal surface of the lower half was soft and shreddy, and in a state of slough. The upper part, where no pus was found externally, was also healthy, or nearly so, on its inner surface. The rest of the viscera were healthy."

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18. *Phlegmasia Dolens in a Male.*—A. Copland Hutchison, describes in the 15th Vol. of the *Transactions of the Medico-Chirurgical Society of London* the following case.

Mr. B. received a blow upon his right shin, about twelve months ago, immediately over a branch of the saphena vein, by a small piece of timber accidentally falling upon it. The scar is very slight, though the injury and its results appear to have been severe, and the patient states that the accident was followed by considerable swelling and inflammation all over the limb, and that the abraded surface was very long in healing. Mr. B. says he first felt pain in the direction of the upper third of the saphena before it actually dips to unite with the femoral vein. The whole leg and thigh soon became enlarged and inflamed, the former partly œdematous; and although the patient states the disease to be slowly on the decline, yet the enlargement of the thigh and leg still continues, and he has pain from the groin to the heel and sole of the foot, principally in the direction of the branches of the saphena, with a slight blush of redness over the fore part of the leg, where the original injury was received: but while the member is kept in the horizontal position he is nearly free from pain.

I have traced the upper portion of the saphena vein, and find it to be a complete ligamentous cord for eight or ten inches, but the femoral vein seems to me to have hitherto escaped the diseased action. The patient has no pain or uneasiness within the pelvis, and his general health is good. It should be stated, however, that the testis of that side is slightly enlarged, but not indurated.

Dr. G. R. Treviranus also relates in the 5th Vol. of the *Heidelberg Klinische Annalen* two cases of this disease occurring in men. Dr. T. considers the disease to be a catarrhal affection of the cellular tissue surrounding the muscles, and of the mucous sheaths.

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19. *Dengue.*—In a communication published in our third volume, page 242, Professor Dickson, of Charleston, expresses his belief in the identity of the epi-

demic which prevailed in Calcutta, and its environs, in 1824, with the dengue. We have just received the first volume of the Transactions of the Medical and Physical Society of Calcutta, in which we find an account of this epidemic by James Mellis, M. D. and we think that no doubt can exist as to the correctness of the opinion of our esteemed coadjutor. Dr. Mellis describes the disease as sparing scarcely any, of either sex, or of any age. "The new-born infant," he says, "the aged—the weak and the robust—the rich and the poor—those reduced by disease to the lowest state of existence, as well as those under the influence of medicine, and unusual discharges from the system—all were alike the objects of its attack; for no condition nor circumstances of any sort seem to have availed in preventing it."

Its invasion was very sudden. "The patient, in many instances," says Dr. M., "when eating his meal, or soon after, and with no preceding diminution of appetite, is seized with lassitude, drowsiness, slight vertigo, a sense of coldness creeping down the back, or numbness in the extremities—occasional rigors—pains in the head, and in different parts of the body, sometimes in the larger muscles and joints, and occasionally in the smaller, such as the fingers and toes. The pulse, tongue, and skin, which at first are not so much affected, soon change from their healthy condition to that of disease. The pulse becomes frequent, full, and hard, averaging about thirty or forty strokes above its natural rate. In some cases, the increase is much greater, and the temporal arteries are felt to beat violently. The skin becomes hot, often intensely so, without the least tendency to perspiration;—the eyes appear suffused more or less;—the face reddens, and the tongue is of a scarlet colour at the sides, and furred with white or brown in the centre. The head-ache, in some instances, and the pain in the back and loins, are the most distressing symptoms; while in others, the intolerance of light—the excessive thirst, disagreeable taste in the mouth, and general uneasiness, are most complained of. The bowels are generally costive; and in some cases, oppression at the præcordia, nausea, vomiting of viscid mucus and of bile, attend the disease at its commencement, and for some time after."

Among the sequelæ of the disease, Dr. M. notices prostration of strength, and general debility of the whole system, weakness of the stomach, of the limbs, continued pains in the joints, and œdematous swellings in the extremities.

The skin was not only turgid, and "of a red scarlet colour, but in many instances an eruption or rash appeared on different parts of the body, of a similar colour, and of various extent. For the short time it remained it was attended with some degree of heat and itchiness, particularly when the small exfoliations of the cuticle began to appear."

The salivary glands were, in some individuals, swelled, and the discharge of saliva was very considerable. In one instance swelling of the scrotum and testicles took place

MATERIA MEDICA.

20. *On the Morbid Phenomena caused by the use of Iodine.* By Dr. Jahn.—"The author of this paper, published in the *Journal Complem.* for Feb. 1830, informs us that in the part of country where he resides, there prevails a species of bronchocele which, to all appearance, is a simple hypertrophy of the thyroid gland. He affirms that this affection is never seen where the water springs from ground that is basaltic, porphyritic, granitic, or gravelly; whereas it is constantly observed where the waters issue from calcareous soils, and contain a quantity of lime in mixture. Iodine is the remedy which is generally employed for bronchocele in this part of the country, and he has had ample opportunities, he says, for remarking its effects on the animal organization. Orfila showed that this powerful medicine, in large doses, occasioned pains in the stomach, ma-

laise, vomiting, diarrhœa, syncope, oppression, ptyalism, tremors, &c. Symptoms of this kind were observed by our author in a man who had swallowed, by mistake, an inordinate dose of the tincture of iodine. In other cases where the medicine was merely continued longer than proper, Dr. J. was struck with the slow but great absorption of fat, preceded and accompanied by an augmentation of all the secretions and excretions. He observed the skin became dark-coloured, and the perspiration viscid—the breathing embarrassed—the urine abundant—the bowels loose and very bilious—the catamenia, (in females,) more copious. From these phenomena our author argues that the functions of the venous and absorbent vessels are much increased, in proportion as the nutritive system has been diminished. The blood, he says, becomes thinner than natural, and less abundant in fibrin. If the medicine be continued in these cases, various bad consequences ensue. He mentions two cases where he opened the bodies of patients who laboured under the excessive use of iodine, and where the emaciation was extreme, and the viscera in a very flabby state. Still Dr. J. considers the medicine in question as one of the most valuable which has been discovered within the last hundred years. Indeed he terms it 'un remède divin.'

"In scirrhus of the pylorus Dr. J. affirms that iodine has sometimes removed the malady, when early applied, and when aided by leeches. The same has been stated by Wagner, Henneman, Hufeland, and others. We would strongly recommend the medicine in question to be tried in dropsical cases dependent on visceral obstructions."—*Med. Chirurg. Rev. April,* 1830.

21. *New Mode of Preparing Medicines with Sugar.* By M. Beral.—At the meeting of the Royal Academy of Medicine, on the 9th of February last, M. Guibourt made a report on a new mode of preparing remedies with sugar, by M. Béral, pharmaceutist of Paris. M. Béral makes at first tinctures of the medicinal articles with alcohol and ether; these tinctures are afterwards poured upon sugar broken in small pieces; the alcohol and ether is then evaporated, and the medicinal principles which they held in solution, remain with the sugar. M. B. thus obtains a medicinal sugar, which may be granulated or powdered for use.

The committee regard these preparations as very useful, and consider them as possessing the following advantages; 1st, they contain the medicinal principles isolated from the substances employed in their preparation; 2d, the medicinal principles are separated from the stimulating articles in which they were dissolved; 3d, they are soluble in water; 4th, the doses can be determined with accuracy; 5th, many of the medicinal syrups, in which the dose of the medicine is not well known, may be replaced by sugar saturated with this medicine in determined proportions; 6th, these preparations may be substituted for the oleum saccharum, used at present to give an aromatic flavour to many medicinal preparations.—*Journal Général de Médecine, March,* 1830.

22. *Formulæ for Preparations of Sarsaparilla.* By M. Beral.—MM. Baget and Robinet have presented to the Academy of Medicine, a report on some formulæ of M. Béral, for preparations of sarsaparilla, from which we derive the following particulars. By macerating thirty-two ounces of sarsaparilla in sixteen pints of alcohol, at 20 degrees, M. Béral obtained four ounces of a very beautiful and sapid extract, which appeared to him to contain all the necessary qualities, and to present a very natural base for all the preparations of sarsaparilla. The committee have repeated the experiments of M. B. and with precisely similar results, and they also adopt his conclusions. The following are the considerations upon which they found their opinion. By treating a like quantity of the same sarsaparilla with cold water, they obtained one ounce and four drachms of extract. On comparing this with the alcoholic extract, it was easy to ascertain their comparative value as medicinal preparations. By dissolving both in water, observing the proportions in which they had been obtained from the sarsaparilla, it was evident that the alcoholic extract was much more aromatic

and bitterer. Finally, if we consider that the alcoholic extract represents eight times its weight of sarsaparilla, it may be conceived that its employment offers advantages in relation to the simplicity of the proportions. Thus by dissolving one drachm of this extract in one pint of water, we have a solution of sarsaparilla, which represents one ounce of this root. By dissolving two ounces of extract in fourteen ounces of alcohol, at 20 degrees, we have a tincture, each ounce of which represents one ounce of sarsaparilla. The syrup is prepared in an analogous manner.

From these examples, it is evident to what a degree of simplicity M. Béral has reduced his formulæ. "It is important to remark here," the committee observe, "that the proportion of one part of extract to eight of sarsaparilla, being that which root of good quality gives, when the alcoholic extract is employed, we are much surer of obtaining identical preparations, than when we calculate upon the proportions of sarsaparilla. In fact, sarsaparilla may be good in itself, but contain so large a proportion of amylaceous principle, that it will furnish only a tenth or a twelfth of its weight of extract. If this sarsaparilla be employed in the same proportion as that which gives one-eighth of extract, it will evidently produce a very inferior preparation. To destroy this reasoning, it would be necessary to demonstrate that the properties of the sarsaparilla do not reside in the odorous and sapid principles, but in the woody fibres, the starch, and the gum, which remain after the treatment with alcohol."

M. Béral proposes a new process for the preparation of the compound syrup of sarsaparilla.

Among the formulæ of M. B. is one for the vinous extract of sarsaparilla, or portable tisan of sarsaparilla, which the committee think offers some advantages.

The committee obviate the objection which might be urged against the alcoholic extract on account of its price, by observing that it may be prepared more economically, by distilling the tincture so as to collect the alcohol; but they judiciously observe, that if the preparation be a superior one, its cost ought not to be an objection.

The committee state that from their own experiments, as well as those of M. B. and also of M. Soubeiran, the red sarsaparilla is preferable to the other varieties met with in commerce.

The following are the formulæ of M. B. which the committee recommend as preferable to those now in use.

No. I. Extract of sarsaparilla by alcohol, or hydrocoholic extract of sarsaparilla.—℞. Alcohol diluted to 20 degrees, 16 pounds; sarsaparilla cut in pieces, 2 pounds. Macerate the sarsaparilla in the diluted alcohol for a month; then decant and filter through paper. Afterwards distil this tincture to separate the alcohol, and concentrate the remaining solution in a water-bath, to obtain a soft extract, the quantity of which is usually four ounces. A little before finishing the concentration of the extract, and whilst it is sufficiently liquid, it should be filtered a second time.

With this extract, solutions or tinctures are made, having definite proportions of sarsaparilla.

No. II. Vinous extract of sarsaparilla.—℞. Spanish wine, 15 ounces; extract of sarsaparilla, 1 ounce; total, 16 ounces. Dissolve and filter.

No. III. Syrup of sarsaparilla, or rather syrup of the extract of sarsaparilla.—℞. Extract of sarsaparilla, 1 pound; water, 8 pounds; white sugar, 15 pounds—total 24 pounds. Place the water and extract into a basin, and slightly heat it to facilitate the solution of the extract. Add then the sugar, and keep it warm until the whole is dissolved; when cold, pass the syrup through a sieve. Twenty-four ounces of the syrup represent one ounce of extract, and eight ounces of sarsaparilla. One ounce of the syrup represents one scruple of the extract, and eight scruples of sarsaparilla.

No. IV. Improved sudorific syrup of Cuisinier.—℞. Extract of sarsaparilla, 1 pound; hydroolic syrup prepared with sugar, 8 pounds; hydroolic syrup prepared with honey, 7 pounds; hydroolic tincture of sarsaparilla prepared according to the following formula, 8 pounds. Put the whole into a basin, and concentrate it by heat to about 16 pounds of syrup. One pound of this syrup represents eight ounces of sarsaparilla, two drachms of senna, two drachms of the flowers of borrage, two drachms of pale rose flowers; and two drachms of aniseed.

Hydrolic tincture for the preparation of the preceding syrup.—℞. Aniseed, fennel seed, flowers of borrage, pale rose flowers, of each six ounces; boiling water, twelve pounds. Infuse the articles in the water for twelve hours, and filter through paper.

No. V. Vinous extract of sarsaparilla, commonly called *Portable tisan of sarsaparilla.*—℞. Extract of sarsaparilla, 1 pound; good wine, 3 pounds. Dissolve and filter.

To prepare the tisan.—Take water, 4 glasses, vinous extract of sarsaparilla, two spoonfuls. Six ounces of this tisan represent two ounces of sarsaparilla; one glass contains half an ounce of the sarsaparilla.

No. VI. Sudorific mixture of Dr. Smith.—℞. Sarsaparilla, 8 drachms; China root, liquorice, guaiac, and sassafras, of each 2 drachms—total 16 drachms.

Sudorific extract of Dr. Smith.—℞. Diluted alcohol at 20 degrees, 16 pounds; of the preceding mixture, 2 pounds. Treat it similarly to the extract of sarsaparilla.

No. VII. Vinous sudorific of Dr. Smith, commonly called *sudorific rob, concentrated essence or liquid extract of sarsaparilla.*—℞. Of the above extract, 1 pound; good wine, 7 pounds; volatile oil of sassafras, 64 drops. Shake the oil and wine together, dissolve the extract in the mixture, and filter.—*Journal de Chimie Médicale, March,* 1830.

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23. *Balsam of Copaiba.*—According to M. Gerber, of Hamburg, there are sixteen species of *Copaifera,* all of which furnish the copaiba of commerce, but especially the *C. multijuga,* Mart., *C. jacquini,* Desf., *C. langsdorfii,* Desf., *C. coreacea,* Mart., and *C. bijuga,* Hayne. The best copaiba is produced in Brazil, and the kind most esteemed is entirely colourless, but this is kept by the Brazillians for their own use, and is not exported. The second quality is of a pale yellow, and is the best that is sent to foreign countries.—*Bull. des Sc. Med. Feb.* 1830, *from Archiv. des Apotheker. Tom. XXX.*

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24. *Gum Ammoniac.*—M. Szowits has discovered in the Steppe, near Nakhitcheran, the plant which furnishes this medicament. It is not an *Heracleum,* as asserted by Willdenow, but a *Ferula* with the seeds not alated; it has leaves resembling the *Laserpitium siler,* and umbellæ disposed in spiciform paniculæ. M. S. has obtained from this plant gum ammoniac; he names the plant *Ferula ammoniacum.*—*Bibl. Univ. de Genev. Nov.* 1829.

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25. *Taste of Sulphate of Quinine.*—M. Schweinsberg states in *Geige's Magazin für Pharmacie, for Oct.* 1829, that the best mode of correcting the bitterness of the sulphate of quinine is, not to mix it with syrup, but with an aromatic powder. The sulphate of quinine is so intensely bitter that a mixture of one part of this salt with one hundred and sixty parts of sugar is still sensibly bitter; but if one part of the salt be mixed with ten or fifteen parts of powdered *valerian,* fennel, aniseed, orange peel, &c.; the mixture possesses scarcely any bitterness.

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26. *Phosphate of Quinine.*—Dr. Harless, of Bonn, has found the phosphate of quinine, (slightly acid,) a much pleasanter remedy than the sulphate of quinine, or the free alkali. The phosphate, he says, agrees better with irritable stomachs, with nervous persons, or with those who are subject to irritations or inflammations; its employment does not produce the uneasiness which sometimes follows the administration of the sulphate. It does not so readily accelerate the actions of the heart, or irritate the bronchia or lungs. On account of

its insolubibity, it must be given in powder or pills—the dose is from one to four grains.—*Bull. des Sc. Med. from the Heidelberg. Klinische Annales, Tom. IV.*

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27. *Mudár.*—Bamboo Ram Comel communicated to the Med. and Phys. Society of Calcutta, at their meeting in May, 1829, an account of this medicine. The tree from which it is obtained is of three kinds; one found in the high lands of the upper provinces, and two in Bengal Proper, of which the appearance and qualities in a medicinal point of view nearly resemble the former. They are distinguished from each other by the colour of their petals; the one being red and the other white, the latter of which is much the largest in point of size. The use of mudár was at one time very extensive among native practitioners: but a story having gone abroad of a man's being poisoned by sitting under the tree, and another's dying after taking some of the milky juice administered as a purgative, it has fallen into disuse, and is now considered a dangerous remedy when taken internally for whatever disease. It has been used chiefly in eruptive disorders, rheumatism, and general debility. It is heating, and a powerful purgative, and given in desperate cases only when all other remedies have failed. In obstinate constipation of the bowels, half a drachm of the milky juice mixed up with sugar and flour has been found efficacious. In asthma, and other diseases of the chest, it has likewise in this form been administered successfully. In dropsy, the flower given with black pepper has been found serviceable. The juice externally applied to boils hastens their masturation. Herpes in its various forms is likewise cured when rubbed with it. Applied to rheumatic joints, the leaf often affords relief when other means have been resorted to in vain. The lower classes of natives sometimes soak gram and peas in the juice and dry them in the shade: a few grains of these causes copious evacuation of the bowels.

PRACTICE OF MEDICINE.

28. *On the use of Iodine in Morbid Growths.* By B. Brodie, Esq.—Mr. Brodie says that he has employed iodine as an internal medicine in a great number of cases of morbid growth, without any manifest effect arising from its exhibition. "In two cases, however, and in two only, it was productive of the greatest benefit, effecting that which I should scarcely have supposed that any medicine was able to accomplish.

"In one of these cases, which I attended with Mr. Pennington, the patient laboured under a tumour on one side of the tongue, and imbedded in its substance, of about the size of a nutmeg, of an irregular form, hard to the touch, and having a well-defined margin. The disease had existed between one and two years, gradually making progress; and it had resisted the internal use of arsenic, as well as a course of sarsaparilla, combined with oxymuriate of mercury. As the surface of the tongue was furred, and there were some other symptoms which seemed to indicate a deranged state of the digestive organs, we prescribed, in the first place, the pilula hydrargyri, with a gentle aperient, and a light bitter with soda. Under this treatment the tongue became clean, but there was no perceptible alteration in the local disease. We then administered the tincture of iodine three times daily, in moderate doses, gradually increased. In a fortnight the tumour was evidently smaller, and at the expiration of about eight weeks it had nearly disappeared. The patient was sent into the country, being directed to continue the use of the iodine for some time longer. This was upwards of four years ago, and I have not seen the patient since; but I have been informed that the cure is complete.

"The second case was that of a man who was admitted into St. George's Hospital, on account of a tumour, situated on one side, a little below the axilla.

It was of the size of a small orange, unattended by pain, bearing no marks of inflammation, and quite moveable beneath the skin. Having removed it by the knife, I found, on making a section of the tumour, that it was composed of a brown solid substance, of a firmer consistence, and to all appearance more highly organized than fungous hæmatodes, and of an uniform structure throughout, except that externally it was covered by a thin membranous cyst closely adhering to it. Some time afterwards the same man applied at the hospital a second time, having two tumours on the neck, each of the size of a double walnut. These bore no resemblance to the common enlarged glands which occur in this situation, and so exactly resembled that which had been removed from the side, that no one entertained a doubt as to their being exactly of the same nature.

"Conceiving that there were some obvious objections to a second operation for the removal of a disease so manifestly depending on a constitutional cause, and knowing nothing better to be done, I prescribed the tincture of iodine to be taken internally. Under this course of treatment, which was continued for several weeks, the tumours gradually diminished in size, and ultimately disappeared. I have heard nothing of the patient since; but as I told him that he should be received into the hospital again whenever he applied for that purpose, I think that in all probability he has had no return of the complaint.

"I have no right to say, that in these cases the tumours were of a malignant nature; at any rate, they were not malignant tumours of the worst kind. I have however, exhibited the tincture of iodine in many cases of truly malignant disease, and in a few instances, as it appeared, not without some temporary advantage. For example, I was consulted concerning a lady who was supposed to labour under a tumour of the breast: I found, however, on examination, that the breast itself was in a healthy state; and that in this, as in some other cases which have fallen under my observation, the apparent enlargement of the breast was the consequence of its being elevated by a tumour beneath it. The tincture of iodine was given internally, and under its use the tumour became so much reduced in size, that I had the credit with the patient and her friends of having cured an obstinate disease. The amendment, however, was of short duration. Soon after discontinuance of the medicine, the tumour began again to increase in size; and the iodine, which was a second time administered, had now no dominion over it. The patient ultimately died, and on inspecting the body it was ascertained that there was a medullary or fungous tumour, which had its origin in one of the ribs below the breast and pectoral muscles. The same disease existed also in other parts of the body."—*Seymour's Illustrations of the Ovaria.*

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29. *Nitre as a Remedy for Scurvy.*—In a letter, or report, from Mr. Charles Cameron, a naval surgeon, to the Navy Medical Board, (with a sight of which report we have been favoured by one of the medical commissioners,) there is given an account of a severe scurvy which broke out among the convicts on board the Ferguson transport, on her passage from Ireland to New South Wales, and which threatened to depopulate the crew, till fortunately it was checked by a solution of nitrate of potash in vinegar, or in a mixture of vinegar and lemon juice. The convicts, two hundred and sixteen in number, were embarked on the coast of Ireland, in November, 1828, and were then in a low state of health, from deficient nourishment and the depressing passions. Bad weather was experienced on the early part of the voyage, and the convicts suffered greatly from sea-sickness. Their constitutions were thus still further debilitated, and before the ship crossed the equator, the hospital was full of scorbutic patients, and many others were confined to bed, in a dangerous state. The disease assumed a variety of forms, or rather a number of other complaints became engrafted on the scorbutic diathesis, and were thereby rendered much more formidable. Dysentery, however, was the most prominent feature or form, and affections of the lungs were also very common. Two of the men died of the

scorbutic dysentery. When they were preparing to bear away for Rio Janeiro in order to procure refreshments for the sick, Mr. Cameron tried an old remedy recommended by Patterson many years ago, in his Treatise on Scurvy—namely, nitre. The common stock of this being soon exhausted, a supply was procured from the gunpowder on board. The effects Mr. Cameron describes as almost miraculous—so much so, that they abandoned the idea of putting into Rio, and pursued their course to New South Wales, where the convicts landed in unusually good health. The formula and mode of administration will be seen in the following extract:—

"But I might add, that the most distressing symptoms which my patients complained of, in the early stages—namely, a sense of 'oppression and sinking at the pit of the stomach'—were almost invariably relieved, or totally removed, by a few doses of the medicine. The prisoners themselves were so sensible of its good effects, that I had, for the first time, an opportunity of seeing men crave for medicine, the taste of which was certainly not pleasant; and their complexions were so much improved under its use, changing from a sallow, bloated hue, sometimes approaching to livid, to a clear, healthy colour—that it became matter of surprise to every one.

"The medicine was prepared and exhibited in the following manner:—Eight ounces of nitre were dissolved in so much vinegar as would make the solution amount to sixty four ounces. Sometimes equal parts of vinegar and lime-juice were used. A little sugar was generally added, to render it more palateable; and about four drops of ol. menth. piperatæ, diffused in a small portion of alcohol, was added to the whole, which rendered it more grateful to the stomach.

"One ounce of this solution was the dose, and was seldom exceeded. From three to eight doses, according to the stage of the disease and the severity of the symptoms, were given at equal intervals during the day—from six o'clock in the morning till eight at night. In general, when the disease was taken early, two or three doses a day, for a week or ten days, were sufficient; but it appeared to me to be always better to commence with three or four doses, and increase the number gradually—daily if necessary. In the advanced stages, a much larger quantity may be taken, and is in fact required, than at the commencement of the disease; but although I have often given the solution to the extent of eight ounces daily, and on one or two occasions exceeded this quantity considerably, and have at the same time watched my patients very closely, I never observed any irritation of the stomach or bowels, or any other inconvenience which could be fairly attributed to it. It is, nevertheless, adviseable to dilute each dose with two or three ounces of water when exhibited. While the constitution is thus being corrected and improved, particular symptoms will require the usual attention.

"It is perhaps proper to notice that about two years ago I had occasion to give a solution of nitre in water a fair trial, in several bad-cases of scurvy, where neither vinegar nor lime-juice could be obtained; and, except that sometimes it did not appear to me to sit so easy on the stomach, with the same good effects on the disease."—*Medico-Chirurgical Review, April*, 1830.

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30. *Case of Ileus Cured by Crude Mercury.*—A lady, aged 44, had been for some years subject to attacks of colic, for which she generally had recourse to spirits. On the 19th of September she was seized with colic, accompanied by constipation: the pains increased, and were exceedingly severe on the 21st, when Dr. Ebers was sent for. The patient had then violent pain, which came on in paroxysms, and was chiefly seated in the vicinity of the umbilicus, and in the right iliac region. The pain was not increased by pressure, and there was little fever. There was constant vomiting, but no trace of hernia. She was bled generally and locally, and laxatives with antispasmodics were administered, while fomentations, embrocations, and enemata, were also had recourse to. None of these, however, brought relief, and next day there was stercoraceous vomiting. Ten drops of laudanum and croton oil were given, the external ap-

plications being continued. Still no relief. On the morning of the 23d, an ounce and a half of quicksilver was administered, with ten drops of laudanum; at the same time some castor oil was given in the form of emulsion, and oleaginous clysters were injected. At noon, no stool having been procured, two ounces more of the quicksilver were taken. At two o'clock, some inflammatory symptoms having come on, she was bled. At five, no change. A little feculent matter had come away with the enemata, and some gurgling was heard in the bowels. Some aloes and hyoscyamus were given in solution. At ten o'clock, no change: three ounces of quicksilver with ten drops of laudanum, were then administered, the mixture above-mentioned being continued. On the 24th, at four in the morning, copious evacuations took place, with immediate relief. Up to the 27th, the dejections contained indurated feculent masses, and it was not till these gave place to a diarrhœa, that quicksilver was seen in the stools.—*London Medical Gazette, March,* 1830, *from Hufeland's Journal.*

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31. *Treatment of Extensive Burns.*—Dr. DORFMULLER, of Furstenau, extols in the 5th Vol. of the *Heidelberg Klinische Annalen*, the following remedy recommended by Professor Knackstedt as the best topical application in extensive burns. Its effect is sedative, and if too long continued, it is never productive of injury. ℞. Extr. Saturn. Ol. Olivar, aā q. pl. Aq. rosar. suffice. quant. ut triturando f. Liniment. If some places should suppurate too copiously under the use of this ointment, the following ointment may be used. ℞. Flor. Zinc. Pulv. Lapid. calaminar., Lycopodii. āā ʒj. Myrrh., Sacch. Saturn. āā ʒss. Axung. porc. aq. rosar. lot. ℥jss. m. D.

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32. *Frontal Neuralgia cured with Extract of Belladonna.*—M. J. CLARET relates in the *Révue Médicale*, for January last, five cases of frontal neuralgia, cured with extract of belladonna applied by friction over the part.

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33. *Paralysis of the Face.*—M. H. MONTAULT states in the *Révue Médicale* for January last, that he was attacked in August, 1829, with paralysis of the face, from an affection of the portio dura of the seventh pair, and that he has been entirely cured by the employment of galvanism. The particulars of the case are given, but they do not present any thing remarkable. We have to regret, however, that the particulars of the application of the galvanism, and the direction of the currents are not stated.

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34. *Ascites cured by the External Application of Digitalis.*—M. RAISIN has cured two cases of dropsy by frictions with the tinctures of digitalis and squills. One of these patients was attacked at the same time with quartan fever and gastritis—in the other the dropsy had resulted from abdominal inflammation. The state of the gastric passages would not permit any of the stimulating remedies proper to excite the secretion of urine, to be taken. M. R. had recourse to the iatraleptic method, which produced an abundant flow of urine, and the ascites disappeared after a treatment of from two to three months.

M. Dan de la Vanterie has obtained a similar effect from the long-continued application of the fresh leaves of digitalis bruised, to the thighs and lower part of the abdomen.—*Bull. des Sc. Med. Jun.* 1830.

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35. *Head-ache.*—M. RICORD recommends as a cure for this affection a quarter of a grain of morphine in cold sugar and water. M. Mérat has treated four cases with success by this remedy.—*Archives Générales, March,* 1830.

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36. *Ergot of Rye as a Febrifuge.*—Dr. MEHLHAUSEN, of Deutsch-Eilaw, recommends, in the 29th Vol. of *Rust's Magazin*, the ergot as a remedy for intermittent fevers. In seven cases in which he employed this remedy, five were cured. It must be confessed with no great success. He gives the remedy in the

dose of ten grains repeated three times in the two hours which immediately precede each paroxysm.

37. *Clinical Reports of the effects of Venesection in the cold stage of Intermittent Fever.*—This report was made by Mr. Twining to the Medical and Physical Society of Calcutta, at their meeting in December last, and comprehends ten cases.

Case. 1. Was bled to twelve ounces in the cold stage of the 6th paroxysm of tertian intermittent. He experienced immediate relief, the rigors ceased, and he became hot for about half an hour; he had a slight return of fever daily at noon for six days, not preceded by rigor or cold. This patient had enlarged spleen.

Case 2. Was bled to fourteen ounces in the cold stage of tertian ague in the 4th paroxysm. The rigors soon ceased, he had a slight hot stage for about half an hour, and there was no return of the disease.

Case 3. Was treated with purgatives, quinine, and arsenic, afterwards with mercury to salivation, without benefit; bled in the cold stage of the 11th paroxysm, he felt immediate relief, and had a very short and slight paroxysm without sweating stage. A slight feverish feel remained for eight days after. At the end of fourteen days, he had a return of ague, and on the return of next paroxysm, after one day's interval, he was bled in the cold stage, and cured.

Case 4. Quotidian ague of seven day's duration, purged and took bark, bled to eighteen ounces in the cold stage of 7th paroxysm with great relief; was exposed to cold next night, and had continued fever afterwards.

Case 5. Tertian ague, bled to ℔i. in the cold stage of the 5th paroxysm, with immediate relief; had a short and slight paroxysm, and was cured.

Case 6. A most distressing tertian, with very severe rigors; bled ℔i. in the cold stage and cured.

Case 7. Irregular ague, sometimes tertian, sometimes quotidian, bled to twelve ounces in the cold stage, with much benefit, he was cured, having in place of ague on the two next days of expected access, a slight feverishness.

Case 8. An Asiatic, a native of Madras, bled to six ounces and a half in the cold stage of 2d paroxysm of tertian. The rigors ceased in less than two minutes after the vein was opened, he had no fever, and was cured.

Case 9. Irregular intermittent, used quinine without benefit, emaciated, bled to six ounces, in cold stage, with immediate benefit, and had no return of the disease.

Case 10. Bled to ℔i. in the cold stage of 6th paroxysm, the cold ceased, and he had a slight paroxysm. The ague returned on its regular day, and he was bled again to ten ounces, in the cold stage, which was arrested, and had no ague or fever since.

Mr. T. enters on some remarks as to the benefit to be expected from guarding against the ulterior results of repeated congestion of internal organs. He also observes, that further experience is requisite to prove whether the treatment be adapted to all cases of ague, at all seasons, and in all situations, or to persons debilitated by disease and long residence in India. Mr. Twining usually has dr. ss. of sp. ammon. aromat. mixed with oz. i. ss. of warm water ready, in case the patient be faint; he says this is rarely used; but that the patients appear better for drinking a cup of hot sago or tea within half an hour after the bleeding.

OPHTHALMOLOGY.

38. *On the Treatment of certain Injuries of the Eyes.* By Samuel Barton, Surgeon to the Manchester Eye Infirmary.—In cases in which the cornea has been punctured by a sharp body, and the capsule of the lens wounded at the

same time; and also in those cases in which, without any penetrating wound of the cornea, the capsule has been ruptured, and the lens forced into the anterior chamber, Mr. Barton recommends the early extraction of the lens, as the means of affording the patient the best chance of escaping with the least injury of vision and deformity. The usual mode of treating such accidents is generally to subdue inflammation, by venesection, leeching, &c. and waiting for the absorption of the lens. This practice, though admitted by Mr. B. to be sometimes successful, he says in a majority of cases we shall have to contend with a tedious and severe inflammation in the first instance, and eventually an obliterated pupil, with a thickened capsule, adhering firmly to the iris, that cannot be dislodged, and not unfrequently suppuration of the eyeball.

"My attention was directed to the improved treatment of these cases of early extraction of the lens," says Mr. B. "from comparing the advantages with the disadvantages, resulting from the different operations for cataract. From observation I found that more inflammation of the eye, and more constitutional disturbance, ensued from the operations for the depression of the lens, and for its solution, than from extraction, whenever the last operation was well performed.

"It will be an objection with some surgeons to interfere with a single cataract, when the vision of one eye is perfectly good, and in most cases of spontaneous cataract I should agree in this opinion; but in the accidental cataract I should, from experience, recommend the operation of extracting the lens without delay. My mode of performing the operation varies very little from that of the usual manner of extraction; but in making the incision in the cornea, I am governed with respect to the extent of it by the state of consistence of the lens, and the situation of the wound of the cornea.

"As in young subjects, the lens will be generally soft, if the situation of the original wound of the cornea produced by the accident be not unfavourable, a smaller division of the cornea will answer the purpose than when the lens is hard. When the accident takes place in an old person, we have reason to expect to meet with a harder lens, consequently a larger division of the cornea is required, provided that the nature of the case will admit of it.

"In performing the operation, I generally use Beer's extracting knife, and having carried the point into the centre of the pupil, I then raise the handle of the instrument so as to depress the point, and keep it there for a few moments, until I have ascertained whether the lens will escape, by merely making a slight pressure with the knife kept in this position—and in many instances this takes place. If I find that the lens is too hard to pass, I extend the incision before I withdraw the knife, and finish the operation with the scoop.

"Although I am an advocate for extracting the lens early in such cases, there are certain injuries of the cornea in which it will be necessary to wait until some reparation has been made: for instance, when the cornea has been divided by any rough cutting instrument, producing an angular wound with ragged edges, it will be desirable to wait and employ those measures which are the most likely to restore union.

"After my early operations, I dressed my patients either with a wet cloth, or a plaster of simple cerate, and a bandage placed lightly over the eye. By such loose dressings it is scarcely possible to keep the eye in a sufficiently quiet state till perfect union of the cornea shall have taken place; and it was evident to me, that I had not only very great difficulties to encounter in the after-treatment, but that the operation of extraction failed in some cases in consequence of such dressings. I therefore determined to employ those means that were the most likely to keep the eyelids steady, without producing pressure, and thereby promote the union of the wound of the cornea by the first intention.

"After the pupil has been cleared of the lens, the eye is to be treated as in cases of extraction; and the plan that has proved the most successful in my practice is to place two slips of court-plaster, four inches in length, and a third of an inch broad, in a perpendicular direction across the eyelids of both eyes, "This I find to be the best dressing, since without occasioning pressure or uneasiness, it at the same time allows the discharge of any fluid.

"If the process of healing be not interrupted, we shall find in the course of three or four days that all discharge has subsided. The patient will sometimes complain of a pricking sensation in the lids, and it will then be necessary to remove the plasters carefully, and replace them by new slips; but in changing the plasters, the eye should not be opened for an examination until the fifth or sixth day after the operation.

"Since I had recourse to this dressing after the operation of extraction, my cases have been very successful, and attended with less trouble and anxiety, than when I have operated by depression or solution; and I can confidently recommend it when either the cornea has been opened to make an artificial pupil, or in injuries from accidental circumstances; and the same applications of the slips of court-plaster will be found advantageous, by those who prefer the operations for depression or solution."—*London Medical Gazette, March,* 1830.

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39. *Amaurosis.*—A young female was, at the beginning of November last, brought to the Hôtel Dieu on account of a complete amaurosis after a blow on the right eye with a whip. No wound could be discovered; the conjunctiva was slightly ecchymosed, the pupil dilated and insensible, and vision completely destroyed. The humours of the eye were perfectly transparent. She was bled, and had leeches applied to the temples, but without any immediate benefit. On the third day, however, she began to distinguish light, and, after a few days more, vision was almost completely restored.

Cases of amaurosis, M. Dupuytren observed, after contusions of the eye, are by no means unfrequent; but it is worthy of remark, that this effect should sometimes be met with in cases where the external violence appears hardly sufficient to produce such an effect. Thus, corks of champaigne bottles, striking against the eye, have, in some instances, produced amaurosis, and a similar cause exists, perhaps, in all cases of so-called spontaneous amaurosis, which take place suddenly. M. Dupuytren mentioned another case of amaurosis after a blow with a whip, where there was apparently no wound, but considerable ecchymosis, and swelling of the conjunctiva; violent inflammation succeeded, and in spite of the most active antiphlogistic treatment, terminated in the evacuation of the humours, in the midst of which one of the knots of the whip was discovered.

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40. *Evacuation of the Humours of the Eye by a Wound, with Restoration of Sight.*—This very interesting and remarkable case is related by Baron **Larrey** in his *Clinique Chirurgicale,* a work just published, and from which we shall extract some other instructive cases. A sergeant of the fifth regiment of the Royal Guard, fell on the morning of the 20th of March, 1821, against a pile of muskets, and struck his left eye against one of the locks; the globe immediately burst, and was almost entirely emptied; the man mechanically carried his hand toward the eye, and found in it some glairy matter, in the middle of which was a whitish globular body, which according to all appearances, was the lens. He washed his eye with cold water, covered it with a bandage, and was carried to the Hôpital de la Garde Royale, a few hours after the accident. On examination M. L. found the eyelids ecchymosed, the conjunctiva red and swelled, and the globe collapsed; there was a wound at the inferior half of the cornea, through which the iris was prolapsed, and from which there was a constant discharge of an albuminous fluid mixed with blood; the bottom of the eye was of a dark red colour. The patient complained of violent pain in the orbit and whole left side of the head. The eye was washed with cold water; the iris, the internal margin of which was torn from the ciliary ligament, was reduced with a golden stilet, the edges of the wound in the cornea were brought into contact, the eye kept closed, scarification made in the eyelids, and blood taken from the temporal artery. The patient was placed in a dark room, took cooling draughts, and

had ice applied over the head, and sinapisms to the feet. Under this treatment the pain in the orbit and head-ache subsided, and he had about an hour's rest. Towards the evening he became feverish, and was again freely bled. The ice and cooling potions were continued. On the next morning, symptoms of cerebral inflammation having manifested themselves, he was cupped between the shoulders; the other remedies were continued, and the bandage not removed before the ninth day, when M. L. found, to his great surprise, the globe almost of its natural size. The aqueous humour still escaped through the wound, on the edges of which there were some irregular membranous fragments, probably of the membrane of the aqueous humour, which were removed by the scissors. The patient said he could distinguish the light. The eye was again closed, and covered with a compress, dipped in camphorated wine, and an aromatic poultice applied to the left temple and supra-orbital region. The other remedies, as well as the application of ice were continued, and the patient repeatedly cupped. On the sixteenth day, the bandage over the eye was again removed; the pupil was irregular, the iris motionless at the inner and lower portion; but its external half contracted perfectly well; its interior margin presented a semilunar fissure of a line and a half in breadth. The patient said he could distinguish objects very well, though they appeared to him as if divided longitudinally. The eye was now again covered with a simple bandage, and daily washed with a decoction of poppy-heads, containing a small quantity of camphorated wine. Under this treatment the inflammatory symptoms gradually disappeared. On the twentieth day after the accident, the wound in the cornea began to cicatrize, and after a few days more, was perfectly healed. From this period the globe recovered its former size and form; the pupil was drawn towards the temple, but perfectly sensible at its outer portion. Sight was perfectly restored, except that the patient was obliged to use concave glasses, and that when he looked at objects before him, they appeared to him to be divided. On the 15th of May he left the hospital to resume his duties as sergeant, and on the 29th of the same month he was presented to the Societé Philomatique.

41. *On the Use of the Essential Oil of Lemons in some of the Diseases of the Eyes.*—From experiments made at Berlin, M. Werlitz thinks that the essential oil of lemons may be advantageously employed in the treatment of the following diseases of the eyes. 1st. Inflammations of the eye which are passing into the chronic state, and which affect the external parts, as the conjunctiva, cornea, or sclerotica, particularly if the small vessels be turgid. M. Werlitz has also found the remedy useful in the rheumatic, gonorrhœal, and scrofulous forms of ophthalmia; in pannus and pterygium; in albugo, and opacity of the cornea; and in cases where the texture of the cornea has lost its healthy density, and becomes soft and spongy. The remedy may be employed frequently during the day, depending upon the degree of irritation it produces.

The following is the manner in which M. W. applies the remedy. He cuts a slice of lemon peel, about an inch long and half an inch broad, places the upper part opposite the affected eye, and the eyelids being opened, squeezes out the little drops of volatile oil contained in the tissue of the rind into the eye. The sensation produced is acute, and continues for an hour or two. If the pain caused should be severe, cold applications are to be employed. The effects attributed to the oil of the lemon-peel, are those of increasing the capillary circulation, and causing the absorption of morbid depositions.—*Journal für Chirurgie und Augenheilkunde.*

42. *On the Employment of Ice in the Ophthalmia of New-born Children.*—M. Rust, in Vol. XXX. of his *Magazin,* states that the application of ice has produced excellent effects in the commencement of purulent ophthalmia of new-born infants, especially when the inflammation is principally seated in the eyelids, and these latter are much tumefied. Trials of the remedy have been made in the Charité at Berlin.

SURGERY.

43. *Case of Tetanus caused by a Foreign Body imbedded in the Ulnar Nerve.*—A young man was struck with a whip over the arm, so as to produce a slight wound at the anterior surface of the forearm, just over the ulnar nerve. This soon healed, and left a small elevated cicatrix. A short time afterwards, however, the individual was brought to the Hôtel Dieu affected with tetanus, the cause of which could not be ascertained. The case ended fatally, although the most extensive antiphlogistic treatment was employed. The post mortem examination gave no clue respecting the origin and termination of the disease; the brain, with its membranes, as well as the spinal chord, were perfectly healthy, &c.; it occurred, however, to M. **Dupuytren**, to examine the cicatrix on the forearm, in which he was surprised to find a knot of the whip imbedded in the substance of the ulnar nerve, the irritation of which had undoubtedly been the cause of the tetanic affection.

44. M. **Dupuytren's** *Opinion of the Comparative Advantages of Union by the First and Second Intention after Amputation.*—During the past winter many cases of amputation, either of the upper or lower extremities, have occurred at the Hôtel Dieu, in Paris. These operations have afforded M. Dupuytren an opportunity of explaining his views on the comparative advantages and disadvantages of immediate and secondary union. He remarked that the older surgeons were not acquainted with the difficulties which induce operators of the present day to hesitate between these two methods. They were not in the habit of preserving integument enough to cover the bones, and therefore never thought of immediate union. This method only led to the formation of a weak and imperfect cicatrix after suppuration. At a later period the healing was conducted more methodically, but still was delayed by the interposition of substances more or less irritating between the lips of the wound; thus causing suppuration to a greater or less extent. The idea of placing the edges of the wound in apposition, and producing immediate cicatrization, is due to Benjamin Bell, who practised it in 1772, while it was converted into a general principle by Alanson, in 1779. This method was adopted in an exclusive manner in England, and received in Germany with enthusiasm, under the sanction of Graefe. In France it met with more opposition, but having been adopted by Desault, and practised by many of the military surgeons, came to be regarded as preferable to the old method of union after suppuration. Nevertheless, it is only by the result of trials on the great scale, and by a rigid comparison of cases, that this question can be decided; and this mode of inquiry is far from being favourable to union by the first intention.

M. Dupuytren is convinced that more cases of amputation are lost when immediate union is attempted, than where suppuration is allowed to take place. He has had occasion to compare the results, *en masse*, and these have led him to the conclusion just mentioned. Of thirty amputations of various members, in which union by the second intention was practised, only six died. Of twenty-nine others, where union by the first intention was attempted, nine died. Similar observations have several times been made by M. Dupuytren. These results have generally been obtained in individuals who have been operated upon for diseases which had produced copious and long-continued suppuration, as disease of the joints, caries, large ulcers, a set of cases such as are wont to be met with in civil hospitals. It is impossible to change suddenly a long-continued habit of suppuration without danger. Inflammations of the viscera, more or less marked, with or without the formation of matter, have very frequently followed. The drains that have been established in such patients some time after the operation, have not succeeded in saving them, and too often a fatal result has followed where it might have been arrested by a different mode of dressing the stump. Phlebitis, so often a fatal disease, according to the experience of

M. Dupuytren, is more common after union by the first intention than when suppuration has been allowed to take place.

It is acknowledged that the success of military surgeons has been great in practising the method of immediate union, but it is held that the class of patients, and of injuries with which they have to deal, are essentially different from those met with in civil life.

The result of all these considerations has led M. Dupuytren to the determination of only employing immediate union in a small proportion of cases, returning in general to the old mode of dressing the wounds; that is to say, not allowing them to heal till after suppuration. This he accomplishes by introducing a certain quantity of fine charpie between the lips of the wound, which are approximated to within a short distance of each other by adhesive straps: the charpie is only removed when it is detached by the formation of matter. By this method, he thinks the suppuration to which the patient has been habituated, not being suddenly arrested, prevents the occurrence of subsequent mischief.—*London Medical Gazette, March,* 1830, *from the Journal Hebdomadaire.*

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45. *Excision of the Neck of the Uterus.*—M. Richard, of Nancy, Chief Surgeon of La Charité, has performed this operation on a woman aged thirty-six, who had been afflicted for some time with symptoms of incipient cancer of the uterus. On examination, he ascertained that the posterior lip of the os tincæ was three times its natural thickness, that there were many ulcerations in the mucous membrane, and that the periphery of the orifice of the uterus was covered with a yellow, hard, coriaceous tissue. This yellow discolouration, M. R. says is characteristic of schirrus in parts covered with mucous membrane. M. Richard excised the uterus according to the method of M. Lisfranc; the wound entirely healed by the sixteenth day, and the period when M. R. communicated the case to the Medical Society of Lyons, the patient had menstruated twice, and appeared to enjoy perfect health.—*Bull. des Sc. Méd. Jan.* 1830.

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46. *Case of Injury of both Hemispheres of the Brain.*—This case is related by Henry Maunsell, Esq. in the *Edinburgh Medical and Surgical Journal,* for January last. The subject of it, a stout man, aged twenty-two, had been discharging a yeomanry musket rather overloaded. In the explosion, the breech of the gun was driven forcibly from the barrel, and its direction being changed by the resistance of the screw that attached it to the stock, the flat extremity of its cylindrical portion struck the middle line of the frontal bone a short distance above the level of the superciliary ridges, and, penetrating into the substance of the brain to the depth of an inch and a half, carried with it a piece of bone, three-fourths of an inch in diameter, which was exactly its own size. The shoulder of the breech, behind the cylindrical portion, being an inch and a quarter in breadth, the bone, on either side of the circular wound, was irregularly broken, so as to admit of its passing through, and the brain of course correspondingly injured. A short time after the shot had been fired, he was found by his father, fallen forward against the wall on which he had rested the gun, but perfectly sensible. Portions of brain, and some blood were sprinkled on the stones in the vicinity. The father and another person who was present, assisted by the patient himself, made several attempts to remove the piece of iron from the wound, but without success. They continued their efforts, however, for an hour, and often, as they informed me, with force sufficient to have raised half a hundred weight.

About an hour and a half after the accident, Mr. Hunter arrived, and, by using some address, soon removed the foreign body. A cavity was then exposed, into which he introduced his little finger as far as the second joint, and, having felt the piece of bone, he extracted it by the forceps, drew the flaps of skin together, and placed a poultice over the forehead. At this time the surface of the patient's body was cold, and his pulse weak; he was however, perfectly sensible, and did not complain of pain. After the dressing, vomiting came on, which produced a slight discharge of blood. At 5 o'clock, P. M., about five hours after the occurrence of the injury, I saw him. Re-action had evidently commenced; his skin was warm; the pulse 78; and he had head-ache. The brain had risen into the opening, and could be seen pulsating strongly; small portions of it were smeared over the face and eyelids; and blood was trickling from the nostrils. He was bled to ten ounces, which sensibly affected the pulse; a light fold of lint wet with cold water, was substituted for the poultice, and perfect rest and abstinence enjoined. It was remarkable that the use of the lancet appeared to give very great pain.

The patient passed a quiet night, was subsequently judiciously treated by venesection, cold applications to the head, and strict diet, and gradually recovered. When the account was written, (July, 1829,) he was in perfect health, "attending to his ordinary business, and living in his usual manner, without ever suffering the slightest pain or uneasy sensation traceable to the injury. A considerable depression, in the bottom of which is a small T-shaped cicatrix, remains in the forehead, directly above the root of the nose, marking the spot first struck by the extremity of the gun breech. This extends nearly equally on both sides of the central line, and is about ten lines in breadth. Above, and to the right of the cicatrix, the bone is deficient for an irregular space of more than an inch in diameter. In this spot the pulsations of the brain can be seen from a distance of several feet. By gentle pressure on the integuments, the fingers can be sunk into the aperture of the bone, but without producing any unpleasant effect."

This case is interesting, not only in a surgical point of view, showing how much injury the brain can bear under certain circumstances, but also in relation to phrenology. "The principal depression occupies the situation of the organs of upper and lower individuality, and on the left side extends to that of size. On the right side the bone is deficient, and there is a slighter depression over the organ of locality. After close and frequent observations upon the man himself, however, and examination of his family and associates, I have not been able to discover the slightest alteration in mental power. He pursues his usual avocations as formerly, attending to his farm, and occasionally weaving, and exhibits no appreciable deficiency in memory or acuteness of perception. Since his recovery, he has been attending an evening school, and asserts that he finds no change whatever in his capacity for acquiring knowledge."

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47. M. Dupuytren's *Treatment of Hernia Humoralis.*—Many patients affected with inflammatory swelling of the testicles after gonorrhœa, have lately been admitted at the Hôtel Dieu. The history of the cases individually are of little interest, on which account we abstain from giving them; and only advert to the subject to notice the remarks made by M. Dupuytren as to his general treatment of such affections. He directs from twenty to forty leeches to be applied on the scrotum, as nearly as possible on the part corresponding to the testicle; and this application is repeated two or three times, if necessary. Fomentations, poultices, low diet, and diluent drinks, with confinement to bed and the maintenance of the testicles in the support of a suspensory, are rigorously adopted. M. Dupuytren never, on any occasion, practises the method recommended by some, of introducing a bougie into the urethra, by way of irritant, and suffering it to remain there;—a sound or bougie so used, seldom restores the discharge, while it often augments the irritation of the testicles, sometimes even causing formidable mischief. Thus he has seen cases in which individuals have died of other diseases during the time they were under treatment for swelled testicle, by means of bougies left in the urethra: in them the vasa deferentia and vesiculæ seminales were filled with pus.

The result of M. Dupuytren's practice has been very successful, seldom requiring more than a few days for its completion; whereas the former method often lasted six weeks or two months.—*Lond. Med. Gaz. March,* 1830, *from the Jour. Hebdom.*

48. *Sequel of "A Case of Carotid Aneurism, where the Artery was taken up above the Tumour."*[*] By **Alexander Montgomery.**—"June 10th. The patient complains of stiffness of throat, with difficult deglutition, which was attributed to his exposure in the open air after previous long confinement. An anodyne was exhibited, and volatile liniment was used without good effect; on the contrary, the pain and stiffness extended to the right angle of the lower jaw. A blister was applied, and he was purged with temporary relief.

"13th. Slight purulent discharge from the wound; jaw continues stiff, with swelling of the parotid gland and discharge of saliva from the mouth. Emollient cataplasms, astringent gargles, &c.

"18th. Wound entirely healed; other symptoms continue. Continue poultice, gargle, &c.

"26th. Considerable purulent discharge from the mouth, proceeding from the parotid gland, in consequence of which the gland has become soft and decreased in size. From this period, tonic medicines, anodynes, and occasional aperients, (as symptoms indicated,) with a light nutritive diet, were given, and the cataplasm or hot fomentations and gargle continued. His health seemed to amend until two o'clock on the morning of the 3d of July, when he was suddenly attacked with cough, and expectoration of florid blood to the extent of six ounces, accompanied with sinking of the pulse, and every appearance of approaching dissolution. Sulphuric acid, mucilaginous mixture for the cough, &c. were given with some relief. The cough, however, continued, with expectoration at times mixed with blood, as also the discharge of purulent matter from the mouth. The debility increased until five o'clock of the evening of the 12th July, when he expired. At two the following day the body was inspected in the presence of a majority of the gentlemen who witnessed the operation, and several others.

"*Dissection.* In order to expose the seat of the disease with the greatest accuracy, an incision was made from shoulder to shoulder, and another was carried from the centre of the chin to the sternum, dividing the integuments into two flaps, which were thrown up and backward to the angles of the jaw. The muscles separated from the clavicles and sternum, the clavicles separated from their articulations; and the sternum was removed after sawing through the ribs. By these means a perfect view of the parts in their relative situations was obtained.

"No vestige of the aneurismal sac remained; the artery and vein were obliterated, the former from its bifurcation as low as its origin from the aorta, between which and the arteria innominata, a distinct aneurism of the aorta of the size of an orange was discovered; the rupture in the vessel was completely closed by organized coagulated lymph, which had formed an obstacle to the further escape of blood from it into the sac, and in consequence of which the contents of the sac had become putrid and offensive. The right carotid artery had become much enlarged. Thickening of the cellular substance surrounding the vessels; extensive adhesion of lungs; watery effusion into the cavities of the chest; pericardium distended, and containing ten ounces of sero-purulent fluid; heart soft, its surface covered by a thick layer of a curdy-looking purulent matter, and coagulated lymph; inner membrane of the trachea rough and thickened; the bronchiæ filled with a frothy purulent-looking fluid. An abscess containing about an ounce of ill-conditioned pus at the right angle of the lower jaw, with a destruction of the cellular substance surrounding it and the parotid gland."—*Medico-Chirurgical Review, April,* 1830.

49. *Excision of the Elbow-Joint.*—In our preceding volume, p. 228, we noticed some observations of Mr. **Syme,** on the subject of the excision of carious joints, and published a case in which the elbow-joint had been successfully ex-

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[*] See last No. p. 242.

cised. Since that period Mr. Syme has performed this operation in four more cases.

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50. *Excision of the Knee-Joint.*—Mr. Syme considers the knee-joint so far as regards its structure as an equally favourable subject for excision with the elbow, since there is only one articulation concerned in the disease, or affected by the operation, and not a number, as is the case in the wrist or ankle. But the advantages from the operation in this situation, are, he observes, "much more questionable than in the shoulder or elbow, since not only is there much less difference between the utility of a natural leg and a wooden one, than between that of a real and artificial arm, but doubts may even be entertained as to the probability of deriving any assistance in progressive motion from the limb, which is preserved by cutting out the knee-joint. With the exception of the two cases operated upon by Mr. Park of Liverpool, nearly fifty years ago, and the two cases lately published by Mr. Crampton of Dublin, I am not acquainted with any recorded facts to guide us in deciding this question. Each of these gentlemen lost one of their patients, but the others survived and retained limbs so useful, that the owners would not readily have exchanged them for artificial ones. Mr. Park's patient, a sailor, was able to ascend the rigging of his ship with the agility peculiar to that profession; and the woman on whom Mr. Crampton operated could walk the distance of eight or nine miles without suffering fatigue or inconvenience.

"The advantages attending excision of the knee-joint over amputation in the thigh, in addition to the satisfaction of saving the limb, and promoting the credit of surgery, seem to me, *First*, the negative one of saving the patient from the inconvenience of resting his weight upon the *face* of a stump: *Secondly*, the positive one of preserving for him the tarsus, metatarsus, and toes, which constitute an apparatus much more efficient in protecting against the effects of concussion than any artificial one that can be constructed. Influenced by these considerations, I resolved to try the operation in some of those cases of diseased knee, which so frequently result from white swelling in young subjects, and are condemned without any ceremony to amputation.

"John Arnot, æt. 8, was admitted on 1st December. His left knee was very much enlarged and immoveably bent at an acute angle with the thigh. There were two sinuses on the inner side of the joint, which allowed a probe to reach the bone. The disease resulted from a fall on the ice, and was of three years duration. His health was broken, and he seemed devoted to speedy destruction, unless something was done for his relief.

"On Monday, therefore, 7th December, I made two incisions across the forepart of the joint, extending from one condyle of the femur to the other, meeting at their extremities, and including the patella between them. The integuments thus insulated being removed, together with the patella, which was very much diseased, I exposed the extremity of the femur, and sawed it off. In doing this the periosteum was separated from the bone, to which it adhered very slightly, for about an inch or rather more, and I therefore thought it right to saw off another portion to this extent. The head of the tibia was next exposed and removed by means of cutting pliers. One of the articular arteries was tied, and we then proceeded to dress the wound; but here an unexpected difficulty occurred, owing to the hamstring muscles, which, as already stated, were much contracted, and still prevented the limb from being straightened, notwithstanding the relaxation they had suffered in consequence of the removal of the joint. I extended the limb as far as was practicable, and secured it in this position by a splint and bandage. The patient had very little constitutional disturbance, but the wound presented a dry and unpromising appearance. The tibia, from not resting in opposition to the femur, was drawn up behind that bone, distended the integuments, and threatened to exfoliate extensively. I at length succeeded by cautious extension and counter-extension, in reducing the displaced extremities of the bones, when the limb became quite straight, and the tendency to dislocation almost entirely ceased. The cure afterwards advanced satisfactorily, notwithstanding the most vexatious opposition on the part of the patient, who was a boy of uncommon quickness, but most perverse disposition.

"Four weeks after the operation, the wound was all but healed, and the limb is now becoming every day more useful to the patient, who can already make considerable use of it in walking, though not yet provided with a high-heeled shoe.

"Ann Mackintosh, æt. 7, entered the Hospital 14th December, on account of a white swelling of the right knee, which had existed eighteen months, and was now in its last stage. There was a large sinus above the inner condyle, through which I introduced my finger into the joint, and felt it extensively diseased. Encouraged by the success of the former case, I performed a similar operation in this one on the 28th December, and think it unnecessary to mention the particulars, as they were in all respects similar to those already detailed. The articulating portions of bone removed were, as in the boy, extensively ulcerated and carious; but the soft parts were much less swelled, and less altered by the gelatinous degeneration of scrofulous action, than in him; the result, therefore, was expected to be, if possible, still more satisfactory.

"Great difficulty was experienced, from contraction of the hamstrings, in preventing dislocation of the bones, and the femur, so far as it was visible, presented a bare, and dead-like surface, but the favourable termination of the first operation, notwithstanding appearances equally disagreeable, prevented me from abandoning my sanguine expectations of success in this instance also. On the 6th of January, in order to prevent displacement of the bones, which all our efforts hitherto had been unable to effect completely, I cut away about two inches of the femur with the cutting pliers, and then observed, to my extreme concern, that the bone was denuded beyond the farthest extent to which my finger could reach. Amputation now seemed to afford the only chance; but before having recourse to it, I resolved to wait a little, in the expectation of nature pointing out at what part of the limb the operation ought to be performed. On the morning of the 8th I found her very weak; she sunk rapidly; and died at two the same day.

"I do not think that the enemies of excision of the knee-joint can found any thing upon this case, since it would appear from reasoning, and has been in great measure proved by experience, that excision of a joint is less dangerous than amputation of the limb; and the only question that can be agitated, in respect to the merits of the operation in this situation concerns the utility of the limb which is preserved."—*Ed. Med. and Surg. Journ. April*, 1830.

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51. *Excision of the Upper Jaw.* By John Lizars, Esq.—In December, 1827, Mr. Lizars attempted to remove the superior maxillary bone for a medullary sarcomatous tumour of the antrum. He commenced by tying the common carotid artery of the affected side, but was prevented by the hæmorrhagic disposition of the gum and palate, his patient having lost in a few seconds, upwards of two pounds of blood, from completing the operation. The patient, a strong, athletic man, survived this attempt seventeen months, lingering out a most loathsome existence, and suffering great agony for weeks prior to his decease.

Mr. Lizars' second attempt was more fortunate, *at least for the surgeon*. The patient was a woman aged fifty-four, who had suffered for a few weeks with pain in the left supermaxillary bone, and discharged blood from her nostril on blowing her nose. There was considerable swelling of the cheek, and the tumour was painful on pressure. It projected into the posterior part of the left nostril, and towards the cheek, but the orbit was not at all affected. The diseased parts were removed on the 1st of August, 1829, and the tumour found to be of a medullo-sarcomatous structure, and adhering to the pterygoid process of the sphenoid bone. We do not give the mode of operating, as it was very similar to that employed in the third case, which we shall give in detail. On the 16th day, the external wounds being healed, and the patient doing well, she requested to be dismissed. She however died suddenly three days afterwards—no dissection was permitted.

The third operation was performed on the 10th of January last, on a healthy woman, aged fifty-five. Eight months before this period she began to feel pain in her right temple and eye, the latter of which soon protruded in a slight degree, and immediately afterwards the cheek; a fetid discharge began to flow from the nostril of the affected side, and a tumefaction of the hard palate to appear. When she arrived in Edinburgh, there was, on the right side, a distinct bulging downwards of the hard palate, an evident protrusion of the superior maxillary bone forwards to the face, and upwards to the eye, which organ had a weeping, inflamed, and swollen appearance; there was also a small, round, firm tumour in the nostril, from which issued a sanious discharge.

Having prescribed a cathartic the day before, he operated as follows. Having placed his patient on a table, he first secured on the right side the trunk common to the temple and intermaxillary arteries, immediately below the posterior belly of the digastric muscle, slit up the right nostril close to the mesial septum, likewise the upper lip at the labial fossa, and the cheek from the angle of the mouth to the masseter muscle. He next divested the bone of its soft coverings, at the points where the saw was to be applied, by dividing the mucous membrane which invests the floor of the naris, also the gum from the naris to the palate, the palate backwards to the velum, and across to the dens sapientiæ, carefully preserving the adhesion of the velum to the palatine plate of the os palati; after which he dissected up the flap of the cheek from the superior maxillary bone towards its nasal process, and to where it forms the floor of the orbit, also outwards towards the cheek-bone, and around to its bulbous process.

The superior maxillary bone being thus divested of its soft coverings, or cleared of these where it was intended to be removed, he applied the saw at the following different places, namely, the front of the bone between the naris and mouth; the palatine plate backwards from this, parallel with the longitudinal palatine suture; to near where the transverse palatine suture exists; across the same palatine plate towards the bulbous process; upwards between the bulbous process and the pterygoid processes of the sphenoid bone, across where it joins the cheek-bone; and, lastly, at its nasal process, parallel with the inferior margins of the lachrymal and nasal bones. He then, with strong scissors, cut the connexions of the orbitary plate with the os planum of the ethmoid bone, and orbitary process of the palate bone, deep into the orbit, to the spheno-maxillary fissure; and was, lastly, able, by notching with the bone forceps at every point where the saw had been applied, to remove the entire bone, which had its cavity filled with a firm sarcomatous tumour. There were, besides this, two or three soft gelatinous polypi hanging from the mucous membrane of the ethmoid bone, which required to be removed. A little lint was then inserted in the vacuity to afford support to the flaps of the cheek, which were approximated by needles and ligatures, three needles being inserted in the integuments of the nose, two in the upper lip, and four in the cheek. The patient was now carried to bed, and had an opiate administered. The wounds of the integuments healed by the adhesive inflammation. The patient was able to walk about the room by the eighth day, and the 5th of March she left Edinburgh for her home.

This operation appears hazardous, but Mr. Lizars says that it is not so in reality—that when once the hæmorrhage is commanded by securing the internal maxillary artery, it is comparatively easily effected, and not nearly so formidable as the former operation of trephining and cauterizing the antrum. The disfiguration of the countenance, he says, also is rendered very trifling by the preservation of the cheek bone.

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52. *Tapping in Hydrocephalus.*—Dr. Conquest is said to have performed the operation of tapping for the cure of hydrocephalus, twice with success;

and it is stated in the *London Medical Gazette*, for April last, that he exhibited one of the patients to his class, and a number of gentlemen, last spring. "This child, a girl of about two years of age, had several signs of hydrocephalus from a date soon after its birth, and for many months past the head had gradually increased, until it acquired an enormous size. The forehead was singularly broad, and the anterior fontanelle unnaturally large. The pupils were permanently dilated; the child slept almost incessantly, and frequently had two or three frightful convulsions during the day and night. Dr. Conquest operated some time since, before a large number of the pupils of the hospital, by pushing a very beautifully constructed trocar into the right lateral ventricle. He introduced it obliquely, close to the edge of the right frontal bone, about midway between the crista galli process of the ethmoid bone and the anterior fontanelle, so as to avoid the longitudinal sinus on the one hand, and the corpus striatum on the other. The instrument entered about two inches below the scalp. An ounce and a half of bloody serum, mixed with portions of cerebrum, escaped. The pulse became feeble, and temporary collapse followed. The fluid was allowed to escape stillicidium, and within eight-and-forty hours about two pints and a half flowed out of the opening. Almost immediately after the operation, the pupils became sensible to the stimulus of light; the drowsiness was succeeded by disinclination to sleep, and the pulse, which had always before been remarkably slow, became about eighty-five. Two days after the operation, the brain evidenced signs of inflammation, with high constitutional disturbance; and great alarm was excited by a rather formidable attack of convulsions. Leeches to the temples, and the constant application of cold to the head, subdued the local inflammation, and within four-and-twenty hours all became tranquil. The head was well strapped, and from the cessation of cerebral excitement no unfavourable circumstance occurred.

"When this interesting child was exhibited to the class on Saturday evening, every one was struck with the improvement of its appearance, and by the intelligence and cheerfulness of its countenance. Dr. C. stated that he considered it perfectly well, and as exhibiting a most gratifying and triumphant proof that this seemingly formidable proceeding might be safely and successfully adopted under similar circumstances.

"The other case, to which the doctor has often adverted during the winter, he operated on last autumn, assisted by Dr. Hodgkin, the talented pathologist of Guy's Hospital. Nine ounces of serum were withdrawn from the posterior fontanelle. The head became lessened *six inches* in its circumference, and no increase in its size has yet recurred."

53. *Amputation of the Arm at the Shoulder Joint.* By Baron LARREY.—A. Barbotin, æt. 24, a soldier in the 2d Regiment of the Infantry of the Guard, lymphatic temperament, presenting some signs of scrofula, had his left thumb amputated by M. Larrey for an ulcer with caries of the phalanges. Some time afterwards, (March 17th, 1829,) he re-entered the Hôpital Militaire de la Garde with an abscess at the elbow joint, which was opened by the cautery; this was followed by profuse suppuration, and the formation of other abscesses and sinuses; the bone became denuded, and was found to be carious to a great extent; the soft parts were wasted, and the forearm could not be moved without great pain; at the same time, constitutional symptoms arrested, fever, restlessness, loss of appetite, emaciation, &c. and the amputation of the arm was accordingly proposed to the patient, who, however, obstinately refused to submit to it; the disease thus went on, and within a short time, the soft parts o the upper arm, up to the shoulder, had become so wasted and flaccid, tha there appeared hardly any chance of success from amputation; the exarticulation of the limb was therefore proposed, and the patient ultimately gave hi consent to it. The operation was performed by M. Larrey, on the 26th of November, in the following manner:—The patient being placed on a chair, an held by two assistants; a longitudinal incision was made from the acromio

down to about an inch below the neck of the humerus; the deltoid muscle being thus divided into two equal parts, the skin of the arm was forcibly retracted upwards, two flaps were formed, comprising the tendon of the great pectoral and dorsal muscles, very near their insertion; an assistant now compressed and raised the flaps, so that the joint was laid bare; the tendons and capsular membrane were then divided by a circular incision, the arm dislocated outwards, and the knife having been carried between the bone and the soft parts at the posterior surface of the arm, and tendons and ligaments were divided, and the operation thus terminated. The axillary artery, and the two circumflexæ, were tied; the flaps were brought into contact, and the stump was dressed with styrax.

After about a month, the patient was considered convalescent; healthy suppuration had taken place soon after the operation; the ligatures had come away on the twelfth day, and the exfoliation of the articular cartilages was followed by the cicatrization of the wound, which, at the above period, had consequently healed in its upper half. The general state of the patient was also greatly improved, and a successful termination of the case was anticipated.—*La Clinique, January 2d,* 1830.

54. *Real Bronchocele.* By Baron Larrey.—Real bronchocele, M. Larrey says, consists of one or several tumours filled with air, which, during its forcible compression in the upper portion of the trachea, the larynx, or the mouth, has produced small herniæ of the mucous membrane; these tumours rapidly increase in size, so as not unfrequently to exert a violent pressure on the vessels of the neck. They are situated in front, or at the sides of the larynx, between the hyoid bone and the thyroid cartilage, or between the cricoid cartilage and the first tracheal ring, and are invariably produced by violent exertion. The most characteristic symptom of this kind of bronchocele consists in the disappearance of the tumour under compression. In Egypt we frequently observed this kind of bronchocele in the blind, who are very numerous there, and who are employed by the priests to chaunt at the top of the minarets. It generally happens, that after two or three years, such persons became totally unfit for this office, on account of the occurrence and subsequent increase of these tumours. Since M. L.'s return from Egypt, he has had the opportunity of observing two cases of bronchocele in two subaltern officers, who had for a considerable time been employed as military instructors. One of them had near the larynx two tumours, which were free from pain, and crepitus on pressure. They were of equal size and globular form, and the skin by which they were covered was rather tense, but without any morbid alteration. Both individuals had almost entirely lost their voice, being enable to make themselves understood by words, except whilst forcibly compressing the tumours. They were also obliged to breathe with their mouths wide open. In consequence of the continued pressure on the vessels of the neck, the jugular veins had become enlarged, and they suffered greatly from congestion within the head. The application of bladders filled with ice, and of graduated compresses with camphorated spirit and liq. ammon. acetat. greatly reduced the size of the tumours, but did not prevent their reappearance on the least exertion.—*Clinique Chirurgicale.*

55. *Extirpation of a Scirrhous Tumour.* By Baron Larrey.—A man aged forty, of a robust constitution, but of scrofulous habit, had on the left side of the neck a lobulated tumour, which extended from the mastoid process along the jaw to the larynx; it was of ten years' growth, and had of late attained to such a size, as to form a large prominence in front of the lower jaw. It was almost immoveable, and free from pain; the skin by which it was covered did not exhibit any morbid alteration. He had been treated by various methods, but without benefit. Some practitioners had advised the extirpation of the tumour, whilst others considered this impracticable. M. Larrey, though fully

aware of its difficulty and danger, perceived, however, no other means of delaying the fatal termination of the case, and finding the patient resolved to undergo the operation, it was performed in the following manner:—An incision was made parallel to the horizontal branch of the lower jaw; and three others which met the first at right angles, one along the anterior margin of the sterno-mastoid muscle, another across the centre of the tumour, and a third over the larynx; the flaps were carefully detached from the scirrhous mass, and the tumour dissected from the surrounding parts; some of its roots were very deep-seated, so that it was necessary first to remove three-quarters of the tumour, in order to have access to them; one of the roots was so near the large blood-vessels, as to require to be tied before it could be removed; another lobe was fixed between the transverse processes of the second and third cervical vertebræ; another, of oval form, was adherent to the cellular sheath of the common carotid, which was thus, on its removal, completely laid bare; a third pedicle was attached to the left side of the larynx, and seated between the genio-glossus muscle and hyoid bone, and a fourth reached upwards into the mouth. More than fifteen vessels were tied, among which were the external maxillary, the submental, occipital, superior thyroid, and sublingual arteries; several branches of the fascial, par vagus, and sub-lingual, and the accessary nerve, at its passage through the sterno-mastoid muscle, were divided. The wound was closed by about twenty sutures. The operation lasted fifty minutes, and was borne by the patient with great firmness; immediately after it he was seized with syncope, which was soon followed by a tranquil sleep. No untoward symptom was observed during the first three days after the operation, except a slight febrile excitement on the third. On the fourth, the dressings were removed for the first time; the wounds had almost completely united, and there was not much suppuration in the situation of the ligatures. On the ninth and tenth days the ligatures came away, and on the 31st day after the operation, the patient was perfectly cured. The tumour was found to consist of fibro-cellular texture; the external portion of each lobe was formed by very dense cellular tissue, of which concentric layers were sent towards the centre of each lobe, like the cells of an orange; the cellular tissue contained between these cells was of grayish-white colour, rather dense and elastic.—*Ibid.*

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56. *Tracheotomy.* By Baron DUPUYTREN.—A girl aged about eight years, having swallowed a bean, was immediately afterwards seized with violent cough and dyspnœa approaching to suffocation; an emetic was administered, which produced vomiting, but no relief, nor the discharge of the foreign body, which was, therefore, suspected to have entered the trachea. The patient passed a very restless night, almost in a continued fit of imminent suffocation, but it was not till the 13th of February, two days after the accident, that she was brought to the Hôtel Dieu. M. Dupuytren having been informed of the accident, without any delay proceeded to perform tracheotomy. A vertical incision, about an inch in length, was made in the middle of the neck, a little above the upper margin of the sternum; the skin and sub-cutaneous tissue were divided, the muscles pushed aside, the trachea laid bare, and two or three rings of it divided; the aperture was kept open by means of a pincette, and after some violent expiratory efforts, the bean was thrown up through the wound. No ligature had been required during the operation. It is stated that the screams of the little patient, during the operation, were not suppressed, by the artificial opening in the trachea. Towards the evening violent symptoms of bronchitis came on, so as to require venesection to about a pint; the night was rather restless. On the following day, the patient had still fits of suffocation; respiration was performed almost entirely through the wound. On the evening, eight leeches were applied to the neck, with apparent benefit. On the 1st, the little patient was much better, and was considered out of danger.

M. Dupuytren observed, that about fifteen years ago he performed tracheotomy in a similar case, but the bean was neither thrown up, nor could it be extracted during the operation, and it was not before the third day after it, that it was discharged through the wound.—*Lancette Française.*

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57. *Case in which a Foreign Body remained ten years in the Bronchia before causing death.*—As an instance how long foreign bodies sometimes remain in the bronchia before causing death, M. Dupuytren related the following case:—one of his friends, a robust young man, whilst playing with some children, amused them by throwing up a ten-sous piece, and catching it in his mouth; at last, during the moment of inspiration, the coin fell into the trachea. Violent painful cough, accompanied by a peculiar noise, immediately ensued, especially when the foreign body was, during expiration, thrown up towards the glottis; when it was not moved, as it sometimes happened, for several hours, respiration was but slightly affected. The patient being continually in hopes that the foreign body would be thrown up through the glottis, decidedly objected to an operation, and in this state continued for five years, during which time he was much inconvenienced by cough, suffocation, &c. After that period, however, the foreign body appeared to become fixed, and for some time the patient felt almost quite well. Symptoms of phthisis however gradually succeeded, and terminated his life ten years after the accident; the piece of money was found in a tuberculous excavation.—*Ibid.*

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58. *Case of Polypus Tumour obstructing the Glottis and causing death.*—This is related by M. Dupuytren. An old man, who had been admitted at the Hôtel Dieu, on account of disease of the urinary organs, was, from time to time, affected with suffocation. During the intermissions his breathing was perfectly easy, and there appeared to exist no assignable cause for the fits, during one of which, however, he suddenly died. On examination, the glottis was found to be completely obstructed by a small polypus tumour, which originated from one of the arythenoideo-epiglottean ligaments; it was of cellulo-vascular texture, one inch and a half in length, bilobular at its extremity, and covered with mucous membrane. It appears that this tumour had generally been hanging into the pharynx, and then had not caused any uneasiness; but that whenever any change was produced in its position, it obstructed the glottis, and thus ultimately produced suffocation.—*Ibid.*

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59. *Case of Recovery from a Wound in the Stomach, inflicted by a Pistol Ball.* By P. Breton, Esq.—A trooper, in a fit of despondency, formed the resolution, on the 30th of April, 1819, to commit suicide. In the evening, about dusk, he took his holster pistol, and three ball cartridges, and proceeded from the fort of Sembhelpur to the bed of the Mahánadi River, where he intended to effect his purpose. His woman, seeing him in a disturbed state of mind, followed him at a short distance. Observing him load his pistol, and directing it towards himself, she ran and seized his arm, and endeavoured to force the pistol from his hand. In the struggle, the pistol was fired, and the ball passed through the body of the woman, and killed her on the spot. The trooper again loaded, and shot himself in the pit of the stomach, the ball lodging in the left side of the lumbar vertebræ.

Having failed in his attempt to destroy himself, and the third ball cartridge with which he had provided himself being lost when he fell on the ground by the shock from the ball, he returned, without any assistance, to the fort, and communicated every thing that had happened.

"On examining his wound, I found that the ball had entered the epigastric region, and was perceptible to the feel in the left side of the loins. I immediately extracted it, and closed the incision with adhesive plasters. Conceiving that the stomach was penetrated by the ball, I considered the case a hopeless one, and reported the wound to be mortal. The following morning, the man had recovered his senses, so as to give a distinct and rational account of all the circumstances which led to the commission of the rash act; and the wound manifested such appearances, as left no doubt in my mind of the stomach being perforated.

"My attention was therefore directed to uniting the anterior wound with all possible speed, and to prevent the introduction into the stomach of any more food than was absolutely necessary to support life. To my astonishment, the wound quickly united, and the serous discharge from the stomach gradually ceased. When union had taken place in the anterior wound, I was informed by the native doctor, that when food was taken into the stomach, particles now and then escaped from the wound in the loins, where the ball lodged. To convince myself of the truth of this assertion, I gave the trooper a draught of water to drink; and almost immediately afterwards, I distinctly saw a small quantity of it trickle through the wound. I repeated this two or three times, and was satisfied that there was a communication between the stomach and the wound in the loins. Superficial dressings were continued, and rigid abstinence enjoined. In the course of about a month and a half, the wounds healed, and the man recovered."

It is remarkable, that in this case of perforation of the stomach by a pistol ball, very little pain and uneasiness were expressed by the patient, and symptoms of irritation were not at any period manifested. Neither was thirst complained of, nor were the natural functions of the body in any considerable degree disturbed.—*Transactions of the Med. and Phys. Society of Calcutta. Vol. I.*

60. *Inveterate Herpes cured by Extirpation.*—Dr. Eberl relates in the 25th Vol. of *Rust's Magazin*, the case of a man who had been afflicted for five years with herpes, which had resisted all remedies. The disease was situated on the neck, and the part affected was thickened, lardaceous, and callous. The patient was in good health; and as no internal affection could be suspected, Dr. E. determined to extirpate the part, which he did, and the patient was radically cured by the operation.

61. *Disease of the Maxillary Sinus.* By John Couper, M. D. Senior Surgeon to the Glasgow Royal Infirmary.—Inflammation of the lining membrane of the maxillary sinus, instead of ending in suppuration, sometimes terminates in a copious deposition of thick mucous matter, filling up the whole of the cavity. The speedy removal of this substance is essential to prevent ulceration of the mucous membrane, caries of the bony walls of the antrum, or the production of fungous.

Donald M'Queen, aged seventy, was admitted November 13th, 1828. The right nostril is occupied by a fungous tumour, completely filling its cavity, and pushing the septum narium towards the left side. The fungus resembles in appearance the common soft polypus of the nose, and bleeds when touched. The right cheek appears somewhat fuller than the left, and is slightly tender to pressure. The right side of the roof of the mouth, also, is softer and more prominent than the left. The gums are spongy, most of the teeth are loose, and a little purulent discharge oozes from their sockets. The right eye protrudes about half an inch more than its fellow, producing slight eversion of the lower eyelid, and chemosis of the conjunctiva. The right lachrymal sac is much distended, and the tears flow constantly over the right cheek. The right pupil is larger and more sluggish than the left; the vision of the right eye is slightly impaired, as well as the hearing of the right ear. He suffers occasionally severe pain, commencing around the orbit, and extending over the whole of the right side of the scalp, occurring most frequently at night, and accompanied with throbbing of the temples. These attacks are generally followed by bleeding at the nose, which affords relief. General health good.

Twelve months ago, he received a blow above the right ear with a stick; was stunned, suffered slight hæmorrhage from the nose, and from that time became subject to head-ache. Three months after this, he felt slight obstruction in the right nostril, followed by occasional epistaxis. Six months ago the vision of the right eye began to fail, but the eyeball did not sensibly protrude till three months after, since which the symptoms have much increased.

The third and fourth molares on the diseased side being extracted, a perforation was made through their sockets into the antrum. Only a little blood issued; on introducing a probe no firm tumour was perceptible in the antrum, but the cavity was found to be filled with a soft pulpy substance, through which the probe could be passed freely in all directions, coming into contact with a small extent of bare bone in the direction of the orbit. On injecting tepid water through the perforation, it issued freely by the nostril, bringing away, besides blood, a quantity of a white substance, of the consistence of butter. The polypus being removed from the nostril with the forceps, tepid water was repeatedly injected through the perforation, until it issued unmixed from the nostril, and the quantity of inspissated mucus thus extracted, was greater than would have completely filled the antrum in its natural state. The injection with tepid water was afterwards continued daily, and occasional anodynes were given to alleviate the pain in the head. At the end of two weeks, the swelling of the cheek and palate, the protrusion of the eyeball, the epiphora and ectropion, had disappeared; the vision of the right eye was completely restored, but he still heard imperfectly with the right ear, and suffered occasional attacks of pain in the right side of the head. At the end of two months, he left the hospital in perfect health, excepting occasional slight head-ache. There was then no discharge from the antrum, although the perforation had been carefully kept open, and no bare bone could be perceived with the probe.—*Glasgow Medical Journal, August*, 1829.

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62. *Laceration of the Kidney.* By John Couper, M. D.—Although the extent of the fatty matter in which the kidney is imbedded, as well as the strength of the bones and muscular substance by which it is protected posteriorly, might be supposed to place it altogether beyond the reach of injury from without, yet experience has often shown that this is by no means the case. In the following case, the left kidney was extensively lacerated by external violence.

William Baird, aged twenty-eight, was brought to the hospital at four o'clock, A. M., December 8th, 1828, by persons, who said, that two hours before, while assisting in drawing a fire-engine, he had fallen, and the wheels had passed over his body. He is intoxicated. On the right buttock the skin is abraded to the extent of about a hand's breadth, and a little to the right side of the lumbar spine another patch of skin, as large as a crown piece, is similarly injured. Slight crepitus is felt over the lower ribs of the right side, and a crackling sensation over the left false ribs, as if from effused fluid. He complains of acute pain in the lumbar and inferior half of the dorsal spine, excited by pressure or motion of the trunk, but no irregularity of the spinal bones can be detected. He has slight tenderness and fulness of the lower part of the abdomen; the sensation and motion of the lower limbs are unimpaired; slight priapism; skin cold; pulse 80, and feeble.

The catheter was passed, and two pounds of bloody urine were drawn off. The trunk was supported by a bandage. Heat was applied externally, and warm drinks were given. In the course of the day, his strength improved. His bowels were opened by medicine. His urine, although still bloody, was passed without the catheter; but in the evening the abdomen became more distended, and hiccup came on. On the following day he continued to sink, and died forty-eight hours after admission.

On inspection, about a pound of dark-coloured fluid blood was found in the cavity of the abdomen. The peritoneum appeared of a dark purple colour from the extravasation of blood into the cellular substance beneath it. Both kidneys were imbedded in coagulated blood. The right one was uninjured, but the left was lacerated in several places; the largest laceration being about an inch and a half in length, and extending about half an inch into the substance of the kidney. The pelvis of the left kidney was filled with coagulated blood. The ninth rib on the left side was fractured, as well as the right transverse processes of the first, second, and third lumbar vertebræ.

It is worth remarking that the injured kidney and the fractured transverse processes were on opposite sides.—*Ibid.*

MIDWIFERY.

63. *Cæsarean Operation on a Patient dead from Hæmoptysis.*—The subject of this case was a woman aged twenty-eight, who entered the Hospital of St. Louis, June 2d, 1829, in the seventh month of pregnancy with the usual symptoms of phthisis pulmonalis. On the evening of the 17th of July, she was seized suddenly with a frightful hæmoptysis, and expired in the space of four minutes.

When the resident physician, M. Hugueir arrived, life was quite extinct, and he instantly determined to lay open the uterus, and save the child if possible. This was accordingly executed five minutes after her death; the feet of the child were sought for with the right hand and quickly found, when both hands were withdrawn and employed to extract the infant, which gave scarcely any signs of life. It was pale, exsanguineous, motionless, and the pulsations of the heart were scarcely perceptible. The cord was tied before it was cut, frictions with warm cloths on the præcordia were had recourse to, artificial respiration set up, and the child placed in the warm bath. Under the employment of these measures, the heart began to beat more vigorously, the nisus of respiration was induced, and the infant uttered a feeble cry. The animal heat could only be retained by keeping the little creature in warm cloths, but at the age of ten days, when the report closes, it enjoyed good health.—*Revue Méd. Jan.* 1830.

We learn from the *Journal Heb. No.* 59, that this infant continued alive at the age of thirty days.

64. *Detachment of the Placenta by the Injection of Acidulated Water into the Umbilical Cord.*—In our preceding volumes, several cases were related, in which the injection of acidulated water was successful in promoting the separation of the placenta; and this measure has since been resorted to in one instance with the best effects by Dr. Chiesa, of Milan. A lady, aged twenty-eight, who had at her previous labours, and menstrual periods, lost great quantities of blood, became pregnant for the fourth time. She was delivered at full time, after a labour of ten hours. Ten minutes after the infant was expelled, symptoms of a profuse loss of blood made their appearance; attempts were made to separate and deliver the placenta, but without effect. The patient was sinking; the blood continued to flow profusely, notwithstanding the use of refrigerant applications and stimulating frictions. Dr. Chiesa therefore determined to try the injection of the cord; he accordingly expressed from the cord all its blood, and injected it with acidulated water; after keeping in the fluid two minutes, he pressed it out, and then injected a fresh portion; almost immediately after which, uterine contractions came on, and the placenta was expelled, and the hæmorrhage arrested.—*Annali Univer. di Med. July,* 1829.

65. *Retroflection of the Uterus.*—We find in the *Edinburgh Medical and Surgical Journal* for April last, a case of partial retroversion or retroflection of the uterus, related by J. M. Baynham, Esq. Dr. Denman speaks of this accident as one which happens only after parturition, from bearing down of the woman before the uterus has been shortened by contraction. The patient, a woman aged forty, entered the Birmingham Dispensary in 1822, three days before her death. Although the mother of several children, she was not conscious of pregnancy. Retention of urine occurred ten days previously, during which time an

apothecary had charge of the case. He once succeeded, after causing much pain, in obtaining a large quantity of bloody urine, but could never pass the catheter afterwards. When recommended to the dispensary, she was visited by Dr. Lee, who requested the opinion of a surgeon.* From the circumstance of the woman, whose experience was allowed to have some weight, asserting that she was not pregnant, the diagnosis of the case was obscured. Her belly was generally distended, but not so much so as to prevent the detection of a tumour between the umbilicus and the pubis, inclining rather to the right side. The vaginal passage was so limited by the presence of a tumour in the pelvis, that the introduction of the finger was difficult, even after the bladder had been emptied. The surgeon succeeded once only in introducing the catheter, notwithstanding many attempts were made to carry it into the bladder, and yet the instrument always passed freely, though no discharge of urine followed. Every unsuccessful operation was attended by great pain, and generally by a free discharge of blood. The case was suspected to be one of malposition of the uterus, but all endeavours to relieve the patient proved fruitless, and after much suffering, she died in a state of exhaustion upon the thirteenth day of her illness.

Dissection.—The belly was large and tense, and the presence of a somewhat defined tumour still manifest. Before the body was opened, a long catheter was many times introduced, and this with extreme facility, but not in any instance with the purposed effect. The intestines were found pushed up, and the inferior portion of the abdomen occupied by a double tumour unequally divided upon its surface by a tense cord of peritoneum. This division proved to be the natural distinction of the bladder and the uterus. The peritoneum did not exhibit any appearances of inflammation, and the whole of the abdominal viscera were healthy. The boundaries of the uterus could not be traced in this stage of the examination, for the tumour so completely filled the pelvis as to prevent the passage of the hand posteriorly. Fluctuation was evident in both portions of the tumour; but whether caused by a fluid common to both, or held separately in each, did not at first appear. An elastic catheter introduced *per urethram* was discovered in the posterior swelling, the fluid contents of which did not, however, escape. After numerous trials, the instrument at length, it may be said by accident, entered the bladder, and gave exit to more than three pints of urine deeply stained with blood. The anterior swelling immediately subsided, and the uterine tumour became more exposed. The mucous surface of the bladder showed the appearance of high inflammation. The instrument having been withdrawn, was again introduced, but in place of entering the bladder as before, it passed into the uterus, which was now carefully opened, and the catheter found betwixt the membranes and the parietes of the latter organ. Nearly two pints of *liquor amnii* escaped upon a division of the membranes, and a five months' fœtus was in part exposed. The head and chest and upper extremities of the child were still *very tightly* retained in the pelvis. The *os uteri* was placed immediately under the arch of the pubis bearing upon the urethra; the *cervix uteri* much curved, and a considerable part of the organ situated above the brim of the pelvis, its fundus rested in the hollow of the sacrum, thus constituting a case of incomplete retroversion. The catheter had been forced out of the urethra, where it formed an angle, then passing forward in a direct line, entered the mouth of the womb. Effusion of blood in the cellular substance rendered a minute examination of this part difficult, if not impossible, but no opening could be detected in the parietes of the uterus.

It is singular, that in the numerous journies of the instrument along this artificial passage, the membranes of the ovum should always have escaped unhurt. Had they been ruptured, the case might have terminated favourably. Death unquestionably resulted from laceration of the urinary canal, in consequence of which the bladder could never afterwards be properly relieved. This at the time appeared to me a case in which perforation of the uterus might have been practised with advantage.

MEDICAL JURISPRUDENCE.

66. *Case of Poisoning with Arsenic.*—The following case, related by ROBERT CHRISTISON, M. D. in the *Edinburgh Medical and Surgical Journal*, for January last, is interesting, not only on account of the neatness of the analysis, by which an almost incredibly small portion of arsenic was detected, but also as showing that the large doses of this remedy sometimes ordered for medicinal purposes, are not without danger. Six persons at a baronet's in Roxburghshire, were taken severely ill during dinner, or very soon after it. Most of them rose from the table before the cloth was removed; but two of them were not seized till about an hour after the rest. The symptoms were in all sickness, vomiting, and severe pain in the bowels; and in no long time one of them had also diarrhœa. The vomiting continued violent till early next morning, and warm water was taken freely to encourage it. In the course of the night all were affected with a sense of heat in the stomach, throat, and mouth, and in the morning the lips became encrusted, and the skin cracked and peeled off. For three or four days the whole party had a disinclination to eat.

The simultaneous occurrence of these symptoms, during a meal in so many persons, left hardly a doubt that some poisonous substance had been mixed with one or more of the articles taken at dinner. In order to ascertain what the poison was, and in what vehicle it had been taken, various articles were sent to Mr. Christison for analysis. Among others, was two quarts of the vomited matter. A small portion of this when filtered, gave no indication of arsenic, mercury, copper, antimony, lead, or zinc; on being treated with sulphuretted hydrogen. But when the whole filtered fluid was evaporated to the volume of two ounces, sulphuretted hydrogen produced a dirty-yellowish cloudiness, which, after ebullition and subsequent rest for twelve hours, gave place to a scanty, Naples yellow, flaky precipitate. This precipitate was separated and washed by the process of subsidence and affusion repeatedly performed, and was then dried in a watch glass. The product, which was very small in quantity, and of course contained a large proportion of animal matter, was then subjected to the process of reduction in one of the small tubes recommended by Berzelius. By slow and cautious management of the heat, a scanty sublimate was procured forming a dark, filmy cloud, on a small part of the narrowest portion of the tube. This sublimate was entirely destitute of brilliancy on the outside, or of crystalline appearance on the interior, and consequently without the subsequent test of oxidation, suggested lately by Dr. Turner, no conclusion whatever could be drawn from it. But on removing the portion of the tube containing the flux, and then subjecting the film to repeated sublimation, a ring of fine sparkling white crystals was formed, on some of which I could observe with a common magnifier triangular facettes. I could hardly doubt, therefore, that I had procured a minute quantity of oxide of arsenic. But as the quantity was so small, that, being in the custom of weighing somewhat larger quantities, I was sure it did not amount to nearly a 250th part of a grain, I resolved to subject it to a further test. With this view two drops of water were introduced into a tube, and boiled on the crystals. These were soon dissolved, and in the solution the ammoniacal nitrate of silver caused as characteristic a lemon-yellow precipitate as it could produce in any arsenical solution.

The small quantity of arsenic thus detected, led Dr. C. to hesitate in pronouncing that arsenic had originally existed in the subject of analysis, as a quantity too small to be detected by the sharpest eye, scattered on the vessels employed for analysis, might have been sufficient to make up the quantity procured. These doubts were, however, subsequently dissipated by the detection of the arsenic in the remains of a bottle of Champaigne, of which all the party had partaken. This wine was *free from any taste*, except that of vinous sweetness; sulphuretted hydrogen caused however a copious yellow precipitate, the arsenical nature of which was proved by the process of reduction. Two ounces of the wine gave one grain and a quarter of sulphuret of arsenic, corresponding to one grain of oxide of arsenic.

"On subsequent inquiry, it appeared that the bottle of Champagne was brought from the cellar before dinner by the baronet himself, who undid the wire during dinner, immediately before the wine was used. This circumstance at once showed that the wine had been poisoned before the bottle was corked by the wine merchant. Each of the six individuals took a single glass of it, or about two ounces, and consequently each took a grain of arsenic. It has been generally said in systematic works that a grain may prove dangerous. But I am not aware that any direct and positive fact has hitherto been published in support of this statement. The severe effects experienced by all the individuals in the present instance, notwithstanding that the poison was not taken till the stomach contained a considerable quantity of food, proves that on an empty stomach a single grain of arsenic might cause very alarming symptoms, if not even death itself. Four of the party were taken ill about ten minutes after drinking the wine, which is a sufficient answer to those who imagine that arsenic never begins to act in less than half an hour. None of the party perceived any unusual taste in the wine. This is a new and quite impartial testimony on the important question of the taste of arsenic, concerning which so many vague and erroneous statements have been published by authors and sworn to by witnesses. In conjunction with other late instances of the same purport, it establishes the fact, that arsenic may very readily be swallowed in considerable quantity in articles of food without its presence being suspected. Other articles of which the company had partaken at dinner were examined, but no arsenic detected in them."

67. *Case of Poisoning by Arsenic.*—In the *Edinburgh Medical and Surgical Journal* for January last, we find an interesting case of poisoning by arsenic related by Hugh Wood, M. D. of Dumfries. The subject was a boy aged seventeen, who took three drachms of the poison; two hours afterwards he was seen by Dr. Wood, who found him disposed to sleep; eyes suffused and languid; pulse 90, soft, and *rather feeble;* tongue furred. He had slight nausea, but complained of "*no pain* except slight tenderness in the region of the stomach when *firmly pressed;*" "*slight pressure produced no uneasiness.*" Vomiting soon supervened; and he drank and vomited very freely; (upwards of five gallons of fluid.) He was very judiciously treated by leeches to the epigastrium, and afterwards a blister; mucilaginous drink; castor oil; and warmth to the extremities. He however gradually sunk, and died forty-one hours after taking the poison. On examination, the inner coat of the stomach was found "generally more vascular than natural, especially along the larger curvature and about the pylorus, where there were several thick corrugated patches of a deep livid colour. There were also several spots, each about a line, or a line and a half, in diameter, of a brownish-yellow colour, as if the particles of some substance were engrained in the villous coat." This colour had become a bright sulphur-yellow when the stomach was examined by Dr. Christison, five days after death, and was, he says, manifestly sulphuret of arsenic formed by the action of the oxide with sulphuretted hydrogen disengaged after death. This remarkable appearance, though rarely mentioned, has been four times met with by Dr. C. and is probably common. The pylorus was much thickened, and very vascular.

It is worthy of remark in this case that so much arsenic should remain in the stomach after free vomiting; a circumstance, however, there is reason to believe, not unusual. What is most interesting, however, is the absence of pain. It was unquestionably a case of gastric inflammation, excited by the ingestion of a corrosive poison, terminating fatally, and exhibiting after death the marks of inflammation in the stomach—*yet no pain was at any time complained of* except when the epigastrium was *firmly pressed,* and then the pain was but slight. Will the ontologists still deny that gastric inflammation may exist without pain in the stomach being present?

CHEMISTRY.

68. *On the Influence of Electricity on Animal Putrefaction.* By CHARLES MATTEUCCI.—Animal substances withdrawn from the influence of life, quickly undergo a change, and exhale fetid gas previous to their destruction. Air, water, and heat, are the external causes which give rise to this new order of compositions. Water contributes to it by softening the fibres and by uniting itself to the products of putrefaction: heat, when it is moderate, separates them, and by destroying their cohesion, disposes them for new combinations: air exercises the most marked influence by yielding a part of its oxygen to the carbon, the hydrogen and the azote of the animal substances; hence comes the carbonic acid, water, carbonate of ammonia, and the acetic acid, which are the principal products of animal fermentation. The animal fibre then suffers this change, principally on account of the oxygen of the atmosphere which combines with it; and consequently, by taking away the action of the oxygen, we may, in this respect, prevent putrefaction. Nothing, however, is more easy than to change the affinities of bodies, and, for this purpose, it is sufficient to change their electric state. Setting out, from these principles, Sir H. Davy made his fine and useful discovery for preventing the oxidation of copper which sheaths the hulls of vessels. By thus considering oxygen as a body eminently electro-negative, we may prevent its combination with the animal fibre by establishing in them an analogous electric state, that is, a state of negative electricity.

Persuaded from some experiments of M. Bellingeri of Turin, and others not yet published which I have myself made, that animal substances, when they are put in contact with metals, establish themselves in an electric state, I determined to place some pieces of muscle upon plates of zinc, others on plates of copper, and I left others by themselves. In the course of a day I perceived that putrefaction had already begun in the pieces of muscle which were left to themselves, while no alteration showed itself in those which were in contact with metals. I afterwards perceived that the products of the change which had afterwards taken place on these last were different, but were always related to the electric state which they had assumed, that is, with their affinity. I observed, for example, ammoniacal products, and those of carbonated hydrogen in the muscles which were in contact with the zinc; and much acid and acetate of copper in those which were in contact with the copper. These results prove sufficiently that muscle, put in contact with zinc, having become electro-negative, and being no longer able to unite with the oxygen, have been slow in decomposing; but have at last yielded to the affinity, though weak, of the hydrogen and the azote, while, on the contrary, the muscular fibre, placed on copper, were combined entirely into acid products. We may then, in this manner, retard putrefaction, that is, by eluding the action of one of the two elements of the atmosphere. I have thus obtained similar and perhaps more marked results by determining an electric state in the animal fibre, not by electro-motive action, but by placing them as conductors at the poles of a pile.

By setting out with these considerations, it appears to us that we may, with more certainty, explain the antiseptic property of some bodies, an explanation, however, which is not the same for all. There are some, for example, which act by taking away water, others by forming true imputrescible combinations; others, in my opinion, by determining a particular electric state. Of this kind is the property of vegetable charcoal. It is a settled fact in practical surgery, (as has been shown by Dr. Palman in a pamphlet lately published in Paris,) that if we put vegetable charcoal on purulent sores and on putrid sores, it is not long in depriving them of their bad smell, and preventing the ulterior development of fetid matter.

Effects like these cannot depend solely on the action of porosity, for they would cease by continued contact; and we may explain them better by regarding the action of charcoal as electrical, in consequence of which, by establishing in purulent sores, and in putrid flesh, electrical states, they lose those affinities in virtue of which they separate the purulent matters, or destroy them by a rapid putrefaction.—*Annales de Chimie.*

69. *Analysis of Copaiba.*—M. Gerber, of Hamburg, has analysed the pale yellow copaiba, and obtained the following results:—Volatile oil, 41; a brown resin insoluble in cold petroleum, 2.18; a brittle yellow resin soluble in cold petroleum, 51.38; water, 5.44.

When the copaiba becomes old, it undergoes some changes according to M. G.; a part of its volatile oil appears to be transformed into a brown resin; thus, the analysis of old copaiba furnished him with the following results:—Volatile oil, 31.7; soft brown resin, 11.15; brittle yellow resin, 53.68; water, and loss, 4.10.—*Archives des Apotheker. Tom. XXX.*

70. *Purity of Balsam Copaiba.*—The best test of this, according to M. Gerber, is the caustic ammonia, which furnishes at once a clear solution, whilst the solution with potash does not become clear until after some time. The addition of a very small quantity of fatty oil renders the ammoniacal solution immediately cloudy and thicker.—*Ibid.*

MISCELLANEOUS.

71. *Obstetrical Statistics of the Kingdom of Würtemberg.*—The most extensive and interesting document we have hitherto seen in the department of obstetrical statistics, is the account published not long ago of the chief particulars attending the births in the kingdom of Würtemberg, for four years previous to July, 1825, and drawn up by Dr. Riecke, from the lists returned by the various accoucheurs and midwives of that country. The report comprehends the extraordinary number of 219,355 deliveries, and 221,983 births.

In November, 1823, about the middle of the period, the population of Würtemberg was 1,447,108, so that the average number of births was one annually in every 25.4 inhabitants. Of the births, 51.5 per cent. were boys, and 48.5 per cent. were girls.

The births are thus distributed through the months of the year. In every thousand, 90.5 are in January, 85 in May, 85.5 in September, 83.33 in February, 74 in June, 86.5 in October, 87.17 in March, 78.33 in July, 86.17 in November, 79 in April, 78.5 in August, and 86 in December. Of the births, one in twenty were still-born, or died within twenty-four hours. In the circle of the Danube, the proportion was one in twenty-three; in that of the Jaxt one in twenty-two; in that of Black Forest, one in twenty-one; and in that of the Neckar, one in nineteen. Of the still-births, the proportion differed much in the different months; for of 1000, 93.5 were in January; 88 in December; 87 in October and in July; 85.5 in November; 85 in April; 84.5 in March; 78 in June; 77.5 in September; 77 in May, and 76 in February. In proportion to the births of each month, however, the numbers stand somewhat differently; so that July exhibits most still-births; April comes next, and the last in order are September, May, and March. The proportion of legitimate to illegitimate births is eight to one. In the latter, the male births do not predominate so much over the female births, and still-births are more frequent.

The number of children are, on an average, seven for every mother, more numerous in the circle of the Danube, and less in the circles of the Danube and Black Forest. Of mothers who have above fourteen children, the average is one in 129; in the circle of the Danube it is one in 66; in that of the Black Forest, one in 144; in that of the Jaxt, one in 197; and in that of the Neckar, one in 228. Still-births and miscarriages are most frequent in those who have an unusual number of children.

The average deaths in childbed are one in 173; but the proportion differed considerably in the different circles of the kingdom. In the circle of the Danube it was one in 135; in that of the Neckar, one in 172; in that of the Jaxt, one in 199, and in that of the Black Forest, one in 210. The most frequent causes of death were hæmorrhage, miliary, and puerperal fever, hysteritis, metastasis of the milk, and general exhaustion; and a tenth of the deaths were owing to causes unconnected with the puerperal state. The deaths differ much in different months. Of 1000, 45.5 take place in August; 56 in June; 62 in July; 79 in October; 85 in March, 89 in April and November; 91 in September; 98.5 in February; 98.5 in January and May, and 108 in December.

The mortality among women in their first pregnancy is one in 143. Of these, a fifth part are older than thirty; and among such, the mortality is one in fifty. The mortality among women who have twins, is one in fifty-seven or fifty-eight.

Miscarriages and premature deliveries amount to one in forty-one of the total deliveries. Of the premature births, 54.5 are still-born, or die within twenty-four hours; and one-third of the total still-births are premature. Of the total births, one-seventh are cases of primogeniture. In one delivery out of eighty-six, there are more children than one, or in 1163 cases out of 100,000; and of these 1163, twins occur in 1146.9 cases, triplets in 15.2, and four children in 0.9. Of twins and triplets, one-third died at birth. Of the children born four at a birth, every one died soon after.

The labour was natural in 97.5 per cent. of the cases. In the cases of natural labour, the deaths in childbed were only one in 346. In the circle of the Black Forest they were only one in 500; in that of the Jaxt, one in 419; in that of the Neckar, one in 307; and that of the Danube, one in 265. The still-births in natural labour, were one in 31 over the whole kingdom, but in the circle of the Black Forest, one in 26.5; in that of the Neckar, one in 28; in that of the Jaxt, one in 27.5; and in that of the Danube, one in 32.5.—The number of labours in which assistance was required, was 7949 or 3.6 per cent. Such cases were most numerous in the circle of the Danube, and most rare in that of the Black Forest. In the cases in which assistance was required to finish the labour, one in 12.5 of the patients died—but in the Black Forest, one in 11.5, and in the circle of the Danube, one in 14.5 only. In such cases, one in 2.66 of the children died at birth—only one in 3.66 in the circle of the Danube, and one in 2.5 in the circle of the Neckar. In cases where assistance was required, the child was a male in seven out of twelve; and in proportion to the number of each sex born in that manner, eight males died at birth for five females. It often happened that every male child of the same parent was still-born, while every female child survived. The greatest number of cases delivered artificially, occurred in December, March, and February; the smallest number in August and October; February was to October as 13 to 9.4. In 1000 artificial deliveries, the forceps was used in 344 cases, turning and extraction by the feet was practised in 394; turning and extraction by the head, in 2; extraction by the breech or feet in 63; the placenta was detached in 188; labour was brought on by force in 1; embryotomy was performed in 10.75; perforation of the cranium in 1.4; paracentesis of the cranium or abdomen for dropsy in 1.22; gastrotomy in 0.12, Cæsarean section in 0.25 during life, and as often after death; premature delivery in 0.25; and other artificial help was given in 32 cases.

From a comparison of the preceding facts with the state of obstetric practice in the four circles, it follows that artificial labour is most frequent, and the general mortality among mothers greatest where accoucheurs are most abundant; but that the mortality is least among cases where assistance is required to complete the labour, and that the number of still-births is also least, especially in artificial labours.—*Riecke's Beiträge zur geburtshülflichen Topographie von Würtemberg*, 1827.

72. *Statistics of the Netherlands.*—The influence of local circumstances upon the production and preservation of the human species, is one of the most important subjects of inquiry; and we have therefore constantly endeavoured to present our readers with the most authentic facts published on this subject, and we believe that there is contained in this Journal, a greater mass of information in relation thereto, than is to be found in any other work published in this country. In a former volume, (Vol. IV. p. 253,) we noticed some of the interesting observations of M. QUETELET, contained in his "Researches on the Population, number of Births, Prisons, and Poor-houses, in the Kingdom of the Netherlands," and which appeared in 1827. M. Quetelet has since published a work entitled "*Recherches Statistiques sur le Royaume des Pays Bas;*" this work we have not been so fortunate as to see, and as it may be a long time before it reaches us, we extract from the *Foreign Quarterly Review*, for February last, the following interesting sketch of the result of M. Q.'s researches.

The succeeding table is compiled from official documents published by M. Quetelet.

Provinces.	Rate of Increase of Population for 5 years to 1825.	Ratio of Population in 1824 to			Ratio of female to male Births in 1824.	Ratio of Births to Marriages in 1824.
		Deaths.	Births.	Marriages.		
North Holland	0.040	34.5	23.2	104.4	0.956	4.50
East Flanders -	0.051	44.8	28.4	165.3	0.946	5.82
Limburg - -	0.053	47.5	29.2	90.3	0.956	3.09
Antwerp - -	0.056	48.8	30.7	142.9	0.960	4.65
Zeland - - -	0.056	31.4	20.7	113.7	0.960	5.49
North Brabant	0.059	51.4	29.2	150.0	0.974	5.14
Namur - - -	0.062	57.9	29.8	150.9	0.907	5.06
Liege - - -	0.065	46.2	28.9	154.1	0.942	5.33
Utrecht - - -	0.068	36.3	24.3	118.2	0.939	4.86
South Brabant	0.068	38.2	26.1	142.2	0.970	5.45
Guelders - -	0.069	53.7	27.6	131.1	0.952	4.75
South Holland	0.070	35.0	23.9	113.3	0.959	4.74
Overyssel - -	0.071	43.5	26.5	121.9	0.937	4.60
West Flanders	0.073	40.7	27.5	137.7	0.930	5.01
Hainaut - - -	0.073	51.1	27.4	136.5	0.921	4.98
Groninguen -	0.078	49.3	28.9	149.3	0.898	5.17
Luxemburg -	0.080	53.8	27.9	149.9	0.967	5.37
Friesland - -	0.086	46.1	27.1	128.7	0.944	5.75
Drenthe - - -	0.087	55.0	27.8	130.3	0.895	4.69
Average for the kingdom	0.062	43.8	27.0	132.4	0.947	4.90
Do. for 1825 -	..	41.0	27.1	127.2	0.943	4.70

The provinces of Drenthe, Friesland, and Luxemburg, thus appear to be those in which the annual increase is the greatest. They are entirely agricultural and pastoral—are more thinly peopled than any others—and are the most healthy, two of them being those in which the proportion of deaths is the smallest in the kingdom. The circumstances of their inhabitants, if not so wealthy as in other parts, are, at any rate, easy; the wages of labour are comparatively high—the poor not numerous—and in one of them, (Drenthe,) the poor colony of Fredericks-oord has been the means of employing industriously the indigent classes. A gradual increase of population might therefore be looked for, since we see a far greater prolongation of life than in other provinces. It is remarkable that the intensity of fecundity in these three provinces varies extremely; that of Drenthe ranking among the lowest, (the 15th,) of the nineteen provinces; that of Friesland being high, (the 2d;) and that of Luxemburg being about the average. South Holland is also a province where the rate of increase is high, and the intensity of fecundity low; from which facts we are induced to doubt considerably of the value of any speculations upon population, of which the intensity of fecundity is the sole basis. The highest fecundity in the Netherlands is in East Flanders, where the marriages are the fewest, and the annual increase smaller than in any province except North Holland; and it is also high in Zeland, where the annual increase is very small. It is true that in North Holland and Limburg the increase is slow and the fecundity small; but the circumstances of these provinces are identical, not in their populousness, (for one is very thickly, the other very thinly peopled,) but in their unhealthiness; the dampness of their climate, and the exhalations arising from their marsh lands, and stagnant waters, being well known to all who are acquainted with the localities of Maestricht and Amsterdam. There appears, therefore, no reason to believe that the intensity of fecundity has any tendency to diminish in proportion as the population becomes denser; on the contrary, it seems a symptom of an annual increase, and whatever causes promote that increase, appear to contribute to the fruitfulness, rather than to the barrenness of the females of our species.

If any additional proof were wanted to show that the degree in which the power of reproduction is exercised by a nation, is a different thing from its rate of increase, it might be urged, that the proportion of births to a marriage is in Prussia 3 3-4, and in Great Britain 3 3-5, in both which countries the population is advancing faster than in the Netherlands, where it is 4 4-5. The average issue of marriages throughout Europe is, according to Von Malchus,[*] 4 children; and the annual increase in Europe 2 per cent. on about 215 millions. It is evident that the degree in which this ratio is exceeded, or fallen short of, by particular states, is very far from being dependant upon their actual density, or rarity, of inhabitants; for if this were so, the rate of increase in the Netherlands, Wurtemberg, Great Britain, and the Two Sicilies, (whose inhabitants are respectively about, 5067, 4360, 4043, and 3583 to a square mile,) would be less than in France, Austria, Russia, and Sweden with Norway, where the numbers on a square mile are respectively, 3157, 2628, 649, and 282; whereas the actual rate of increase per annum in the eight countries in question stands thus:—

Netherlands - -	1 1-10 per cent.	France - -	6-11 per cent.
Wurtemberg - -	1 1-2	Austria[†] - -	1 1-100
Great Britain - -	1 7-10	Russia - -	1 1-20
Two Sicilies - -	1 1-11	Sweden, with Norway	1 1-3

These proportions, given on the authority of Dupin, Von Malchus, and Schnabel,[‡] show how far from the truth is the assumption that population diminishes after reaching a certain climax, or that it ebbs and flows like the waves of the sea. We do not pretend to maintain the contrary doctrine—that the more populous a country is, the greater is the rate of increase—but the more facts we see bearing on the subject, the more inclined we become to recognise the principle, that the ratio of the advance of population is naturally far greater than that of the means of subsistence, and that it is the insufficiency of those means that is constantly checking the production, as well as abridging the duration of life of the human species. The Netherlands are a striking instance of the influence of peace and plenty on the multiplication of men; and of the truth of the maxim "A côté d'un pain, il nait un homme." If the proverb had said, "A côté d'un pain, il *vit* un homme," it would have conveyed more clearly to governments the lesson, that, by taking care to provide and distribute subsistence, and to augment that provision to its utmost extent, they do the most in their power to preserve and renovate the inhabitants of their dominions.

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[*] Statistik und Staatenkunde. Stuttgart. 1826.

[†] The Austrian increase has been variously stated, but as the rate varies considerably in the different parts of the empire, we have adopted M. Dupin's estimate for the whole.

[‡] General-Statistik der Europaischen Staaten. Prag, 1829.

It is a principle which ought never to be lost sight of, that population has a constant tendency to fill up the voids made in it by death; and as an example of it, we find that the provinces most exposed to mortality, viz. Zeland and North and South Holland, are precisely those where the births are the most numerous, though the shortness of life is, of course detrimental to society, which wants productive members. This rule is so true, that it is verified even with reference to the seasons of the year; for, after eighteen years of observation, M. Quetelet found that the maximum and minimum of births and deaths in the Netherlands take place almost in the very same months; and the *Jaarboekje*, for ten years, just published, gives the average number as follows, for the months which rank the highest and lowest taking unity as the medium, viz.

Births.		Deaths.	
January - - - -	1.091	January, (Maximum) -	1.196
February, (Maximum) -	1.171	February - - -	1.177
July, (Minimum) - -	.851	July - - - - -	.833
August - - - -	.915	August, (Minimum) -	.826

According to the tables of mortality, it appears that at 40 years of age, the probable life is in Holland 26 years—at Amsterdam 22 for males and 25 for females—and at Brussels 24; whilst in Paris it is 21—in Vienna and Berlin 19—and in London but 18 years.* To what causes this superior value of life, at Amsterdam and Brussels over other large cities, is owing, we cannot take upon ourselves to determine; but the difference with regard to children is still more striking, for the probable life, in general, which at Paris is between 8 and 9, at London under 3, at Vienna under 2, and at Berlin a little after 2, falls at Brussels at 23 years, and at Amsterdam, for males at 24, and females at 34. Comparing more closely Brussels and Paris, the proportion of children who die within the first three months, contrasted with the remaining nine months of their first year, is in the former as 1665 to 1384—and in the latter, as 1764 to 693. Nothing would be more useful and interesting than to trace the reasons of this difference; and if it should be found attributable to the more motherly cares of the Dutch and Belgic women, who always nurse their children themselves, it will be a most honourable national fact, and will confirm the remark of M. Benoiston de Chateauneuf,† that for preserving the life of children, care is every thing, and climate little or nothing; Switzerland and Holland, the antipodes of each other in that respect, being the two countries in Europe where fewest of them die.

We have one word more upon fecundity, considered as it fairly may be, as an evidence of a healthy and comfortable state of existence. In the southern provinces there are 5.21 children to every marriage, in the northern only 4.87; both degrees of which are higher than in France, where the proportion of births legitimate and illegitimate, to the marriages, is as 4.76 to 100; and here we have another proof how little the rate of fecundity has to do with the density of the population. The greater frequency of marriages in the Netherlands, may at first suggest a higher degree of morality; they are as 1 to 130 persons, and in France only 1 to 138. We are inclined to think, however, that an allowance must be made for the temptation which the facility of divorce in the Protestant part of the Netherlands holds out, whilst the Catholic Church admits it so rarely, that, in the populous province of East Flanders, there has not been one divorce for ten years. The difference in marriages between the Catholic and Protestant provinces is very considerable; they being in the former, one out of 148, and in the latter, one out of 123. The Hollanders are thus shown to be a more domestic people than the Belgians—a fact very consistent with the greater tranquillity and phlegm of their temperaments.

73. *Vaccination.*—The medical officers of the national vaccine establishment,

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* Dr. Hawkins, in his Medical Statistics, states the mortality in London to be 1 in 40; in Middlesex 1 in 47; and in England and Wales 1 in 58.

† Considerations sur les Enfans trouves. Paris, 1824.

in their annual report for 1829–30, to the secretary of state for the home department, mention that the small-pox has prevailed epidemically in several parts of England with great severity in the course of the last twelve months, and that not less than twenty-eight well-authenticated instances have been reported to them, from different parts of the kingdom, of the disease having recurred to people who had had it before, either naturally, or by inoculation. We cannot be surprised, therefore, they observe, if it shall have been found that many who have been vaccinated have also contracted the small-pox after it. They say, however, that they have the satisfaction of being assured, on the most unquestionable authority, that vaccination has protected some individuals under the most dangerous exposure to contagion, and that those who have been so unfortunate as to take the small-pox after it, have very generally passed through a mild and safe disease. They state, finally, that they are not disposed to overrate the value of the resource, by considering it as affording a certain security against small-pox in all cases, but that every year places its comparative merit in a more striking point of view, and that they persevere in declaring that they believe it as much more prudent to vaccinate than to inoculate, as it was better to inoculate than to allow the small-pox to take its course without controul.

74. *Plague.*—Dr. MADDEN in his Travels in Turkey, &c.—a work which, if not characterized by profoundness of views in relation to medical matters, certainly contains many facts interesting to the physician, and numerous exceedingly sensible observations on human nature—states that he went to the east an unbeliever in the contagion of plague, but that he was forced to change his opinion. The principal facts which he gives in evidence of the contagious nature of the plague are the following:—A lady died at Constantinople of the plague; "several weeks after her death, when two servants were sent to open the apartment, which had been closed, and to remove the bedding, one of them immediately on entering, complained of the closeness of the chamber; next day she had the plague, and died in some few days." Dr. Madden, after visiting a patient with plague, changed his dress, and gave the clothes to his servant to hang up to air; and Dr. M. says, "from them I have every reason to believe he took the disease." This servant was sent to the hospital, and on his way he called on his brother, and shook hands with him; three days afterwards his brother was seized with the plague, and died on the fourth day; and a person "who casually entered the apartment was seized next day, and died." These certainly appear strong facts in favour of contagion, but if Dr. Madden intended they should have the effect of rendering the reader, as it did him, a believer in contagion, he should not have stated in the same letter, that the father of the lady, whose clothes infected the servant, "never left her,(his daughter's) bed-side" during her illness, "holding her in his arms, soothing her inquietude, and respiring her last breath, and yet he took not the disease." That the wife of his servant's brother attended on her husband constantly, and "did not take the disease." That he, (Dr. M.) "survived the folly of inhaling the infected atmosphere of plague chambers, sitting on the bedside of pestilential people," "and feeling their ill-conditioned ulcers." "In Candia," says Dr. M. "I passed many nights in a chamber where a mat was the only separation between my bed and that of a man dying of the plague. I was not aware of his disease, nor indeed was any one of my companions, till I was requested to examine him a few hours before his death—*yet no one was infected.*" How will these facts be reconciled with the belief in contagion? It is not our purpose to discuss the question of contagion or non-contagion here; we only quote the circumstances as narrated by Dr. Madden—the reader may form his own estimate of their value.

AMERICAN INTELLIGENCE.

Second Report of Professor Mott's Case of Aneurism, treated by tying the Artery Ultra Tumorem.—After the return of Moses Gardner to the country, he occasionally wrote to me: one of his letters stated, "his breathing was much better, and his friends on calling to see him, were surprised at the improvement, particularly at the disappearance of the tumour." On the 22d of April, however, I received information of his death, with an invitation to examine the body: all that could be ascertained relating to the case, was, that the difficulty of breathing had returned and at times threatened immediate suffocation:—he had confined himself to the most abstemious living, and gradually declined in general health. The dissection was conducted by my demonstrator Dr. Vaché, to whom I am indebted for the following particulars.

"*Dissection.*—On viewing the body, no tumour appeared externally: the right clavicle was rather more elevated than that of the opposite side, and on removing the integuments, it was found partially dislocated from its sternal articulation, the under surface of which has undergone considerable absorption from the pressure of the aneurism. Immediately beneath and imbedded in the surrounding parts was the tumour: it extended from the sternal extremity of the left clavicle, along the inner and upper surface of the sternum, to which it closely adhered, to about midway of the right clavicle, and pressed as low down upon the pleura as the third rib. Laterally it was adherent to the right lung, and posteriorly rested upon the lower cervical and upper dorsal vertebræ.

The trachea was greatly displaced; it was closely attached to the left side of the tumour, passing obliquely downward and backward, and very much flattened by pressure.

On removing the tumour from the body with its connexions, it was about the size of the two fists, and its parietes were found to be firmly consolidated. It emanated from the arteria innominata, involving the subclavian and the root of the carotid. Superiorly it was of a globular form, and inferiorly terminated in an apex, which passed down below the division of the trachea, and behind the aorta. The right carotid was obliterated: the right subclavian, beyond the tumour, was pervious and natural in its structure. The heart and lungs were sound."

On reviewing briefly the circumstances of this case, no one, I may venture to observe, will attribute its fatal termination to a failure of this form of operation, or of the principles upon which it is founded. The attending symptoms, as well as the dissection, fully prove the cause of death to have been the displacement of the trachea, and the consequent pressure of the consolidating tumour upon it and the bronchial tubes. The absence of pulse in the right arm, the œdema and the numbness must also be attributed to the pressure of the tumour. Had the operation been performed at an earlier stage of the disease, there is every reason to expect it would have terminated successfully. Should I have another opportunity, I will operate without any delay, and tie both vessels at the same time, and not leave one for a future performance, to be decided upon by the effect of the first.

It is perhaps a little singular, that a tumour of this magnitude, should not have appeared much larger externally, for it will be recollected that it never exceeded the size of a walnut. I am happy to add, that the diagnosis for aneurisms of the vessels of the neck and shoulder as given by Mr. Wardrop, in his very able work on this subject, has been fully confirmed in regard to this case.

Park Place. June 3d. 1830.

Extract from the Report of a Committee upon the Subject of Osteo-Sarcoma of the Lower Jaw, to a Medical Society of New York, April 1st, 1830. By David L. Rogers, M. D. Chairman.—The committee to whom was referred the subject of "Operation upon the Lower Jaw," for "Osteo-Sarcoma," Report, That they have diligently examined the subject submitted to their inquiry, and have found much difficulty in fixing the date of the different operations, and in settling the priority of claims. The operation for removing the lower jaw for osteo-sarcoma has been so frequently performed, and so well established, that it is deemed unnecessary at this time to discuss the propriety or practicability of the operation; we shall therefore confine our investigations to the subject particularly referred to your committee, viz. "To whom are we indebted for the introduction of this operation?" In the examination which your committee have bestowed upon this subject, they have not been able to find in the records of surgery a single case in which a portion of the lower jaw was removed for osteo-sarcoma, or even a proposition to that effect prior to the year 1818. In the Dict. Des. Sciences Medicales for 1818, the operation for removing the lower jaw for the cure of osteo-sarcoma is seriously proposed, and an allusion is made to several cases which proved fatal, and the casts of which are to be seen in the College of Medicine at Paris. But no intimation is there offered of the operation ever having been performed for the removal of this disease. The credit of first removing the lower jaw has generally been given to M. Dupuytren. It is true this distinguished surgeon removed a portion of the lower jaw for a "Cancerous Affection of the Gums" in 1812. This case was reported by M. Lisfranc to the Faculty of Medicine at Paris in 1813. This report of M. Lisfranc is republished in the Dict. Des. Sciences Medicales for 1818, Tom. 29, p. 430, who describes the case throughout as a case of cancer, and accuratdy describes its origin, extent, and connexions, under the name of "Carcinome." It is evident from the silence that was observed upon the subject by the French writers, that it was not considered of much importance, as the case was found among the archives of the Faculty of Medicine, and not brought forward until the year 1818. It is mentioned in general among the diseases of the lower jaw, in connexion with caries, osteo-sarcoma, &c. and it was at this time, when relating the operation of M. Dupuytren, that a removal of a portion of the lower jaw for osteo-sarcoma was proposed. The operation of M. Dupuytren was for a different disease, and of smaller extent when compared to those performed for osteo-sarcoma. It is evident that this operation of M. Dupuytren cannot give him a prior claim to the removal of the lower jaw for osteo-sarcoma. If the removal of a portion of the bone is to establish the claim, then Dr. Whitridge might with as much propriety claim originality, as he extracted one-half of the inferior maxillary bone for a necrosis; Decker removed two-thirds of the lower jaw, and his patient recovered.* These operations were performed anterior to the one performed by M. Dupuytren, and thus far he has no claim to originality, as there exists no greater resemblance between the operations of Decker and Dupuytren, than in the operations of the latter and those of Professor Mott.

Professor Pattison, who witnessed the operation of the French surgeon, makes the following remark:—"Dupuytren, when I was in Paris, removed a considerable portion of the angle of the jaw in a case where a cancerous sore was situated over it. The extent of this operation was however trifling when compared with those executed by Dr. Mott."†

From the authorities which your committee have had it in their power to consult, they are well satisfied that the operation of M. Dupuytren should not be ranked with those formidable cases reported by Mott, Gräfe, and Lallemand. Mr. Burns, in his work on the Anatomy of the Head and Neck, makes no mention of an operation for the removal of the lower jaw for the cure of osteo-sarcoma.

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* Medico-Chirurgical Review, No. 28, p. 532.

† Burns' Anatomy of the Head and Neck, Pattison's edition, p. 435.

The first account given of this operation was by Professor Mott in 1822.* This operation was performed on the 19th of November, 1821. The case was a young woman, "aged seventeen years, of a healthy appearance and good constitution." The Professor gives a detailed and interesting account of the disease. From the great extent of the morbid parts, the vascularity of its structure, and the great danger from inflammation to be apprehended, he considered it a necessary preparatory operation to cut off the current of blood by securing the carotid artery in a ligature; the healing of the wound, and the rapid recovery of the case, is doubtless much indebted to this preparatory treatment; at all events it was of great advantage in preventing an useless loss of blood—by this means preserving the energies of the system, and favouring the rapid closure of the wound. Your committee are conscious that many surgeons have removed portions of the lower jaw without this precaution, and have had cause to regret their bold exhibition of surgical skill; nor do your committee believe that it is necessary to secure the carotid artery by ligature in every case in which a portion of the lower jaw is removed, as several cases are reported in which the operators omitted it, some of these cases were attended with terrible hæmorrhage, while others were too insignificant to afford much blood! As an auxiliary in preventing inflammation, no one can for a moment doubt its influence, who has witnessed the effect of cutting off the circulation from inflamed parts. This was in every respect a successful case, and at this date, (1830,) she lives in the enjoyment of good health, which is the strongest testimony that we have to offer in favour of the operation. Professor Mott has performed this operation six times—four of which have been successful.

Case of Uterine Hæmorrhage, resulting from an attachment of the Placenta over the Os Uteri, in a second Pregnancy. By W. C. Roberts, Student of Medicine.—*Saturday Morning, March 20th.* At 8 o'clock I was sent for to Mrs. G——, whom on my arrival, I found flooding rapidly: it had seized her while making a violent exertion; and she had lost a good-sized chamber utensil full previous to my arrival. Her pulse was of the natural standard, and she was not at all exhausted. She was of a delicate constitution, had much injured her health by continuing too long to nourish her first child, in addition to which her son, a boy three years old, had laboured for three weeks under a phymosis, and gave her much trouble, being constantly in her arms.

She was in the eighth month of her pregnancy with her second child, and about twenty-six years of age. The usual means of arresting hæmorrhage were instantly resorted to; cold was applied to the abdomen: she was laid on her back on a straw mattrass lightly covered—air freely admitted into the room—alum whey administered, &c. and in a short time the discharge ceased entirely.

During the next week, all continued to do well: no exhaustion followed the loss of blood, but the pulse was as before, natural. On one day only was there some increased heat of skin and head-ache, for which the liquor. ammon. acetat. with laudanum was given; the second dose was rejected by vomiting—a very slight diaphoresis followed, and she slept well. In three or four days she began to be weary of confinement in bed and anxious to rise, and notwithstanding my earnest injunctions to the contrary, her natural restlessness of disposition, and anxiety for her child, induced her to disregard them, and on the Saturday week, I found her up, and dressed as usual. I then informed her of the probable consequences of such imprudence, and particularly desired that she should remain as quiet as possible, and by no means attempt any laborious exercise, or use any kind of stimulus.

Saturday Evening, March 27th.—I was again called to see my patient at 11 o'clock; she was flooding rapidly by gushes, and had already lost a great deal of blood. Pulse yet good—no inclination to faint—and no exhaustion. The means above mentioned were resorted to; but with little more good than partially to retard the discharge:—several handfuls of snow were placed in the vagina with little or no advantage; tinct. papav. somn. gtt. lxx. were given, and a linen tent dipped in vinegar and water, introduced into the vagina. The flow of blood continuing to be profuse, I called in Drs. Wilkes and Vaché, who had kindly promised me their assistance if any thing untoward occurred.

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* New York Medical and Physical Journal, Vol. I.

The hæmorrhage now recurred at longer intervals, and soon after the arrival of the first named gentleman, ceased entirely. The patient's stomach now became extremely irritable, for which the mistura. Riverii. was occasionally given. She soon, however, vomited with effort a load of dark and undigested food, fortunately without renewing the hæmorrhage. The pulse was yet full, and strength unexhausted; the irritability of stomach partially remained, and there was also considerable restlesness and anxiety to turn over and change her position, soon succeeded by sleepiness, the effect probably of the laudanum.

At half past three, finding that the hæmorrhage had entirely ceased, the pulse good, and the patient inclined to sleep, we left her.

March 28th. At eight, A. M. she was doing well, and had had no return of hæmorrhage. At half past one, Dr. Wilkes saw her with me—her strength was good, and she was perfectly comfortable. At eight, P. M. I visited my patient, she was again bleeding fast, it had come on in her sleep, half an hour before my arrival. The former means, and laudanum gtt. xxx. once again, arrested the discharge.

On the arrival of the two medical gentlemen, an examination was made. The os uteri was found very high up, and dilated to the size of a two-shilling piece, and over it a substance—though whether the placenta or a clot of blood, which it much resembled, was undetermined. It was not until this third attack of hæmorrhage, that it was thought proper to institute an examination, as the two previous ones had been treated successfully by the usual means. The case, from the absence of all the characteristic signs of hæmorrhage arising from the attachment of the placenta over the os uteri, was considered as a simple case of flooding induced by exertion.

The very great rarity of the occurrence of similar cases, in any but those women who had borne many children, in the practice of our most eminent physicians here—the flow of blood being checked by the pains which occurred, instead of "a gush of blood following every effort of the uterus," as observed in placentar attachments by Dr. James Blundell—the fact of the occurrence of the bleeding after severe exertion, and not while, as is observed by the same author, "the patient is asleep, or it may be occupied at the needle, and without any obvious cause," all led irresistibly to this conclusion. But for these circumstances, the plan of rupturing the membranes would have been earlier adopted; the rigidity of the soft parts and closed state of the os tincæ, rendering immediate turning, so warmly recommended by Blundell and others, when practicable, at this time impossible.

Hæmorrhage recommencing profusely, this plan was however decided on, as offering the best possible chance of safety both to the mother and child. But the patient on being informed of, the intention, so firmly refused to permit its performance in spite of every argument used to convince her, that it was for the present deferred. A powder of acetas plumbi, grs. iss., pulv. opii, gr. ss. every three hours was directed, and I remained with the patient throughout the night. The first powder, given in water, was rejected by vomiting; as I possessed no means of changing the vehicle, it was not repeated for fear of renewing hæmorrhage. Her night was spent restlessly, with a continual inclination to turn over, eructation, and occasional retching. Towards morning she slept comfortably, and nothing untoward occurring, I left her at 7 o'clock.

March 29th.—It having been decided to take advice from Professor Mott, my preceptor, he saw the patient in consultation at 11, A. M. On examination he immediately pronounced, that the placenta was attached over the os uteri, which was lower than before, and could easily be felt by the finger. She was again solicited to permit the rupture of the membranes, but again refused, under the hope that no further hæmorrhage would occur. Her strength and pulse were as before, and she was not at all faint.

On my return at 12 o'clock she was again bleeding, and prepared to submit to what might be thought best to be done for her. I sent for Drs. Wilkes and Vaché, who soon arrived. They again examined, and the os uteri being lower down than before, with some slight dilatation of the soft parts, all doubt as to the existence of the placenta was removed. The attendance of Dr. Mott being required, he arrived about two, and proceeded immediately to rupture the membranes. The os uteri at this time was not larger than a two-shilling piece, and the patient complained of great pain, during the introduction of the hand, from the resistance offered by the vagina. Such being the state of the parts, turning was of course impracticable. The pulse was yet natural, and strength unexhausted.

From this time she became averse to speak, or to answer the questions put to her; her pulse also became more rapid and less full. She had frequent and severe pains in her back, without much bearing down, or any effect on the uterus. Towards night she asked to be fanned continually, and great faintness came repeatedly over her. She drank frequently of cold water, and vomited once or twice; complained often of heat, though lightly covered, and required all present to stand away from the bed. Occasional gushes of water slightly stained by blood were discharged.

Towards 10 o'clock it became evident, from the florid colour of the cloths applied, that the bleeding had recurred. An examination was again instituted, but no effect had been produced on the os uteri. It was now decided to wait no longer for the action of the womb, but to deliver the woman by turning, for which purpose the advice of Dr. Benj. Kissam was requested. He arrived about 2 o'clock, but on touching, conceived that the os uteri was not sufficiently dilated to admit the hand, and proposed the use of ergot, of which ʒij. were infused in three gills of water, and one given every fifteen minutes; five drachms were thus administered, but with no advantage; the pain in the back continued to recur frequently, but with no increased severity; the pulse was small, about 130; and her upper extremities beginning to assume some degree of coldness. The hæmorrhage had ceased almost entirely. She was frequently faint, and desired to be fanned, and to drink water.

Under these circumstances, the existence of her life until the morning being very precarious, she was brought to the foot of the bed at about 4 o'clock, A. M. on Tuesday, (the 30th,) and turning performed by Dr. B. Kissam. The os tincæ was dilated with some difficulty, and on passing the hand through the placenta, the head was found to present. On proceeding to the fundus, which the previous evacuation of the liquor amnii rendered very difficult, one foot only could be obtained, which was brought down, and the child delivered in the most favourable position.

The patient during all this time was perfectly sensible, and often inquired what was doing to her, but immediately that all was accomplished she became restless and uneasy, expressing great anxiety to be removed to bed. A bandage was instantly applied tightly around the abdomen, and brandy and water offered her, which she refused to drink. No bleeding followed. She now spoke rapidly and incoherently; her eyes rolled; she threw her arms about the bed; in about ten minutes after the delivery her eyes became fixed, the jaw fell, and the pulse ceased at the wrist. The heart continuing to beat feebly, for a few minutes she was freely stimulated with ammonia, lavender, brandy, &c. internally, and to the chest and nose; friction instituted on the hands, and bottles full of hot water applied to the feet. These remedies were employed for a long time, but proving unavailing, were at length discontinued.

The fœtus had evidently been dead many hours. It was a male child of a large size. The placenta was large; the chord attached on one side to its extreme edge.

The rapid and sudden demise of the patient after delivery, was owing probably to the shock on the nervous system, as the exhaustion of the patient at the time was not alarming, nor did a drop of blood follow the removal of the fœtus or placenta.

The very unfrequent occurrence of anomalous placentar attachments under any circumstances, and still greater rarity of the occurrence of the above kind, in a second gestation, which, to use the words of the learned Professor Hosack, in his letter to Dr. Hamilton of Edinburgh, on the use of ergot,* "never takes place but in those women who have borne many children—in other words, in those cases only where the cavity of the uterus has become enlarged by frequent pregnancies, and consequently accompanied by a correspondent enlargement of the uterine vessels and a propensity to hæmorrhage;" the fact that although a gallon of blood at least was expended from the time of the first eruption to the last, without the occurrence of asphyxia or even faintness, as well as the belief that few if any similar cases are on record, will, it is hoped, prove an excuse for the length and minuteness of the above statement of one of the most dangerous and important cases which engage the attention of the accoucheur.

New York, March, 1830.

[The statement made in the text on the authority of several highly respectable obstetrical practitioners, that the attachment of the placenta to the mouth of the uterus rarely takes place even as early as a second pregnancy, and the assertion of Dr. Hosack that this location never occurs but where the uterine cavity has been enlarged by repeated pregnancies, is altogether at variance with our own proper experience. We have certainly met with several cases of this kind in first pregnancies, one of which, within the last six weeks, we witnessed with Dr. James. On mentioning the opinions stated above, to this experienced practitioner, he thought them extraordinary, as he declared he had met with other cases of this occurrence in first pregnancies, besides the one on which we were attending.† We cannot therefore yield to any hypothesis upon this subject, when it is opposed by personal experience; nor can we see the slightest connexion between this untoward location of the placenta and the condition of the uterine parietes after several pregnancies or deliveries. The implantation of the placenta on any portion of the uterine surface, (for it does attach itself to every and any portion at times,) is subject to no hitherto-discovered law of the ovum or the uterus—on the contrary, up to this time, it must be looked upon as altogether uncertain, if not purely accidental. For were this not so, the reasons assigned by Dr. Hosack would lead to the probability that this accident might be looked for in proportion to the number of times the woman may have been delivered, and thus subjecting her to an increased liability every subsequent pregnancy, a circumstance without example, so far as our reading or experience can be relied on. The hypothesis of Dr. Hosack will also justify the conclusion, that the cause of "placentar attachment" resides in a certain condition of the uterine parietes, and totally independent of any circumstance or condition of the ovum itself—a position we believe that is at variance with all observation. For in every presentation of the kind under consideration, it would appear, that, *that portion of the ovum which furnishes the transparent membranes, and which does not display itself until about the fifth month, has been placed, by some unknown cause, upward, and contrary to the usual disposition of this part.* The cause of this departure from the usual disposition of the ovum is altogether inscrutable at present—for so far not even a plausible conjecture has been offered. The occurrence of this accident is rare at all times; it must necessarily be very much more rare in first than in subsequent pregnancies, since first pregnancies bear but a small proportion to the subsequent ones. W. P. D.]

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* See his Appendix to Thomas's Practice.

† Dr. E. H. Barton, of St. Francisville, also informs us that he has met with it in a first pregnancy.

Compound Tincture of Benzoin as a Remedy for Scalds and Burns. By **William M. Fahnestock**, M. D.—Numerous as are the remedies recommended for scalds and burns, we cannot prevail upon ourselves to withhold adding another to the catalogue, which has proved highly serviceable in many cases under our direction; two of which were so extensive and severe as to deserve to be recorded, and may serve to illustrate the efficacy of the remedy.

The first was my brother, a child of four years of age, who fell into a tub of brine, which had just been taken from the kettle—he was scalded from head to foot. Having the tincture at hand, we had it immediately dashed over his face, and as soon as his clothes could be removed, he was kept constantly wet with it. The convulsive symptoms which followed the accident were soon subdued, and so grateful was the application, that the first words he uttered were, "pour more on—pour more on." In the course of ten or fifteen minutes all the pain and distress was assuaged, and he sunk into a sound sleep, from which he awoke and recovered, with scarcely any inconvenience but slight abrasion of the skin, at places where it became corrugated on the parts on which he rested during the application of the remedy.

The second, W. F. R. an infant of four months of age, who, while having his clothes changed, and being entirely naked, had the boiling drippings of a frying pan turned upon him. The chest, abdomen, genitals, nates, and thighs, were deluged with the scalding fat. Being present, an inmate in the house, we had the fat wiped off in an instant and applied the tincture. After continuing to bathe him ten or fifteen minutes, all the unpleasant symptoms subsided, and he became comparatively quite at ease.

Scarcely any redness remained on the scalded surface in either of the above cases, or any thing left to attract attention, but the yellow discolouration of the skin from the tincture. There may be some difficulty in accounting for the precise modus operandi of this article. Whether it be simple evaporation of the alcoholic preparation abstracting heat, an anodyne power suspending nervous exaltation, or a direct revulsion, we have not space, at present, to discuss.

How far the medication may be useful or proper, further experiments must determine. If it act entirely on an anodyne impression, its efficacy may be limited to the early stage of the accident, as in the above cases, before reaction had much advanced. Under this view, the modus operandi may readily be explained—by allaying nervous exaltation, and consequently preventing vascular influx and congestion. If it act by evaporation, the surface had better be exposed, but we have derived more advantage by having the injured part protected by cotton steeped in the tincture. Whether it act as a refrigerant, sedative, or stimulant, we deem it much preferable to the Kentish liniment, or the spirit of turpentine, as it may be applied with much more facility, and without any apprehension of irritating the adjacent parts.

Case of Bloody Infiltration into the Labia Pudendi. By **William S. Hendrie**, M. D. of Hilltown, Penn. (Communicated in a letter to Dr. **Dewees**.)—In the fifth number of the American Journal I have observed a case of ecchymosis of the labia—I have lately had one of this nature, so entirely different in its character from that related by Dr. Guild, as to induce me to communicate it to you, although it may not afford any thing new or interesting to one whose extensive practice must frequently present many anomalous cases.

On the 18th of January, 1830, I was called in haste to visit Mrs. ——, in labour with her fourth child, (the youngest being five years old;) the distance was eight miles, and I did not arrive until an hour after the child and placenta had been expelled. When I saw her she had most violent bearing-down efforts, and the midwife informed me another child was on the point of being delivered, which I supposed was the case; as soon as my hands were sufficiently warm I took my seat by the bed, for the purpose of making an examination. I found a tumour about the size of the head of a child; to the first touch I took it for the head with the membranes stretched over it, but a careful examination soon developed the nature of the tumour, and I proceeded immediately to lay it open by a free incision; in this however I was arrested by the violent gush of florid arterial blood; the hæmorrhage was so profuse that I thought no time should be lost in arresting it, which I finally accomplished by filling the cavity of the wound with lint, and applying a bandage; not less than twenty-four or thirty ounces of blood was lost, however, before this was accomplished. Ten hours afterwards, owing to the excruciating pain occasioned by the distention of the tumour, I was obliged to remove the dressings—no hæmorrhage occurring, I ventured to enlarge the incision, and extract a portion of the coagula, (say sixteen or eighteen ounces.) The charcoal poultice was the only dressing applied to the wound—no inflammation nor sloughing followed—in two weeks the parts were entirely healed and restored to a healthy appearance.

In this case it was evident the effusion proceeded from a ruptured artery. Would it not be the safest plan, in cases of this kind to make a small incision, which would be sufficient to evacuate a portion of the blood, if in a fluid state; on the contrary, if coagulated, it could readily be dilated to remove the contents of the tumour? Had I made a large opening, it is possible I should have experienced more difficulty in arresting the effusion of blood. In parts so very cellular it would be erring to search for the vessel and secure it by ligature.

The sympathy which was called into action in this instance between the uterus and irritation produced by the tumour, appeared singular. The uterine contractions were very violent, and with short intermissions; indeed she described them as more severe than what she experienced before delivery. During the expulsive efforts it was evident that the tumour became more distended, and to such a degree as to induce us to believe, had we not known to the contrary, that a communication existed betwixt it and the uterus.

Cases of Fracture of the Liver. By John O. Green, M. D. of Lowell, Mass.—Lewis Hirsch, nineteen years of age, in full health, between three and four o'clock of the afternoon of the 6th of March, was thrown from a chaise in quick motion, by driving against a wagon. He fell with violence, and the wheel was seen to pass over his abdomen. He immediately got up, said he was not much hurt but faint, walked into a store near by, and was helped to bed. A practitioner saw him very soon, and took a table spoonful of blood from his arm, (all he could get,) ordered warm friction, ol. cinnamon, &c. &c.

At 6 o'clock I was called and found him supported in a sitting posture upon the side of the bed, having just vomited. His countenance indicated great distress. The surfaces were extremely pale and cold, as also the tongue. He had no pulse at the wrist, was unable to understand or answer a question, and called incessantly for iced water. He expressed great reluctance to lying down, but submitted to it long enough for me to examine him. He referred all his suffering to a spot a little below the epigastrium, and cried out upon the slightest pressure there. He had no apparent bruise, and a hardly perceptible scratch of the skin over the right hypochondrium.

Every means of restoring warmth was now resorted to and diligently pursued, and a table-spoonful of warm brandy and water given every half hour. I staid until half past ten. In the mean time his symptoms were unaltered, except that he became more willing to keep the horizontal position, and made many attempts to evacuate the bladder and rectum, but without success. He repeatedly and urgently desired me to give him cathartic medicine.

At 2, A. M. I saw him again. He had become very restless, ungovernably anxious for cold water, and had passed urine freely. There was a barely perceptible pulse at the wrist, a cold sweat upon the skin, and respiration short and quick. He seemed comatose, unless roused to cry out by severity of pain. He died at half past five in the morning, fourteen hours after the accident.

At 4, P. M. there was an examination of the body. The abdomen was extremely tense. Upon cutting through the peritoneum dark fluid blood boiled out, and we removed by sponges about two quarts, and soon discovered the seat of injury to be in the liver. There was a rent commencing at a point in the right circumference of its great lobe, more than eight inches in length, and of such depth as nearly to have separated the half of that lobe from the organ, then shorter rents in radiating directions from the same point, showing a great extent of injury. Considerable portions of the peritoneal covering of the organ were torn off, rolled up, and loose in the cavity of the abdomen. The parietes over the place of the injury were perfectly sound, with no apparent bruise or external mark of any kind.

Within a month of this accident, a stage coach ran over a man in the same street, and almost instantly killed him, the wheels passing over his body.

Upon examination, it was found that large fractures of the liver were the chief internal injury, although in this case several ribs were broken.

Lowell, Mass. July 8th, 1830.

Case of Poisoning with Corrosive Sublimate, in which the Administration of Charcoal afforded great relief.—By William P. Hort, M. D. of Bladen county, North Carolina.—August 4th, 1829. John Hidleston, a stout man, of robust constitution, about forty years of age, finding himself much indisposed, and supposing that he was very bilious, determined to take a dose of tartar emetic. Under the impression that the strength of his tartar emetic had become impaired, an idea which is very prevalent in the country, he resolved that the dose should be unusually large, and dissolved nearly a tea-spoonful of tartar emetic, as he supposed, in a cup of warm water; of this solution he drank one-half, and waited for the emetic operation. In about fifteen minutes he was alarmed by a burning sensation increasing rapidly in intensity, and extending gradually from the mouth to the stomach. On examination he ascertained that he had taken *corrosive sublimate* instead of tartar emetic, and immediately sent for me—but I was unfortunately absent at the time, and did not see him until the next morning. On hearing that I was from home, he applied for advice to one of his neighbours, who administered a large dose of Epsom salt about three hours after he had swallowed the solution of corrosive sublimate. When I saw him on the 5th of August, early in the morning, his situation was extremely distressing; he complained of intense burning pain throughout the whole course of the alimentary canal; and the contracted state of the muscles of his face, and general appearance, clearly evinced the severity of his suffering: his skin was cold and clammy; his pulse small, hard, and increased in frequency: he complained of urgent thirst, but had not dared to drink any thing to allay it. The dose of salt taken the day before had operated promptly and violently, producing tormina and tenesmus, and bloody and fœtid stools. His physical energies were completely prostrated, and his mind was very irritable. He was bled copiously, probably to the extent of three pints, and I directed him to make free use of the white of eggs beat up with sugar. On the 6th, in the morning, he was worse; his bowels were in constant action; the discharges were still bloody, and very offensive; his skin was cold and clammy; the pulse very feeble and frequent. He said the pain in the stomach and bowels was almost past endurance, and observed that the prescription of the white of eggs and sugar, had produced distressing nausea, and no mitigation whatever of his sufferings.

Convinced that the violent inflammation of the bowels was verging fast towards gangrene, and that the state of extreme debility, to which the constant purging and pain had reduced him, prohibited any further depletion. I ordered a tea-spoonful of finely pulverized charcoal to be administered in gruel every hour, and left him, scarcely entertaining a hope of seeing him alive on the morrow. The next day, August 7th, I called on my unfortunate patient about 10, A. M. and to my great surprise, on approaching his bed, was greeted with a smile; his first expression was, that the charcoal had saved his life. He assured me that shortly after taking the first dose, he had experienced very sensible relief, and that he perceived a regular alleviation of pain after every succeeding dose. He was evidently much better, and unexpectedly rescued from the grave. I directed him to continue the use of the charcoal, gradually increasing the intervals between the doses for several days—his convalescence was steady, though slow; the purging continued until the tenth day; and several months elapsed before the tone of his stomach and bowels was restored.

A considerable portion of the solution of the corrosive sublimate was undoubtedly carried off by the operation of the salt, or the man must inevitably have perished, as the antidote for the poison was not administered until twenty hours had elapsed, in which time so large a quantity of corrosive sublimate, as he swallowed, would have produced an extent and degree of inflammatory action, which subsequent treatment could neither have subdued nor palliated. When he commenced the use of the charcoal, he was evidently sinking rapidly, and the case appeared quite hopeless. I have since questioned him closely on the subject, and he affirms most positively that the charcoal saved his life, and that he could not be mistaken in the effects of its operation.

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Case of Scrofula successfully treated with Iodine. By Charles Lee Payne, M. D. of Lexington, N. C.—A negro man, aged twenty-nine, thick lips, thin and delicate skin, about two years ago received some injury from a blow on the face; a few months afterwards the submaxillary glands, and the glands of the neck, began to swell and harden; soon afterwards he was put under medical treatment, but no permanent benefit was derived from the plan pursued, and the glands of the neck became successively more and more enlarged—suppuration took place, and the matter, which was of a sero-purulent and flaky appearance, was discharged by numerous foraminæ.

In this situation, with the neck extremely swollen, the patient came under my care, about the 1st of January, 1829. Without any preparation, I immediately commenced the treatment by giving him twenty drops of the tincture of iodine three times a day, cautiously and gradually increasing it to forty-five drops, and at the same time used the ointment of the hydriodate of potash by friction to the tumours. In three weeks a decided impression was made, but the disease appeared now to remain stationary, which induced me to employ the iodine in larger doses than I had before heard of its being given—forty-five drops three and four times a day, watching however all the time carefully its effects. In this way I continued its use until he had taken about eight ounces of the tincture, when I thought prudent to wait a short time, thinking there might be some danger in going further, and that habit might have some influence in lessening the effects of the medicine. My patient however continued, (without taking any more,) to improve, and in about four months from the time of commencing was discharged perfectly cured. Not a vestige of the disease has since appeared, notwithstanding he has been actively and laboriously engaged at work in the gold mines.

No other medicines were used during the treatment; for I determined at the commencement to test the virtues of the iodine in this disease, unless the case should contraindicate its use, or appear imperiously to require the use of other medicines.

During the whole course of treatment the patient walked about, and never expressed the least uneasiness from the use of the medicine. No other sensible effect was produced on his constitution except that he became considerably emaciated; he however soon gained his usual strength, and became quite fat, after the disease had entirely left him.

The formula used of the tincture was of iodine thirty grains to the ounce of alcohol.

Of the ointment, forty-eight grains of hydriodate of potash to the ounce of prepared lard.

I may be thought imprudent and rash in carrying the dose ten drops higher than it had previously been used, (to my knowledge,) in this country; but when none of its supposed specific effects were produced, I thought I could venture safely, cautiously to increase the dose.

Entertaining the opinion which I do, that the medical virtues of the iodine are owing to the property it possesses of lessening arterial action, and thereby indirectly promoting the action of the absorbents, it appears to me that in the form of dropsy dependent upon visceral inflammation or obstruction, it would seem to be peculiarly adapted; and as that particular form of the disease has hitherto proved so unmanageable under the most approved remedies, it is certainly worth the trial—and I feel that I am hazarding but little in predicting that experience will prove it to be a valuable remedy.

Professor Dungleston, of the University of Virginia, has given us one case of tubercular phthisis successfully treated by the iodine; and more extensive experience of its use in that disease I think could not fail to raise it higher in the scale of remedies. I have used the iodine in a case of chronic enlargement of the foot and leg, (which presents much the appearance of elephantiasis,) with marked benefit; the tincture and the ointment had not been used more than three weeks before there was considerable diminution in the sore of the foot and leg, which justifies the conclusion, that by a continuance of the same course the disease may be cured. In two cases of enlarged inguinal glands, or bubo, I have used the same medicine with great benefit; indeed, no medicine that I have used appears to have so powerful, and so direct an influence on glandular swellings, be those enlargements or swellings of whatever nature they may, whether scrofulous, syphilitic, or of any other character.

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Case of Disease of the Heart, with Rupture of the Right Auricle. By PHILANDER H. THOMAS, M. D. of Hancock, Mass.—William Potter, æt. 22, of a bilio-sanguineous temperament, after very severe exertions to reach home in a cold night of the winter of 1827, was attacked with the following symptoms:—Pain in the head and epigastric region; pulse small and languid; tongue slightly coated with a whitish fur; bowels costive; palpitations; and tennitus aurium. After these symptoms had continued a few days, he was suddenly attacked with difficult and laborious breathing, amounting almost to suffocation; froth issued from his mouth; his lips were swoln and purple; his tongue protruded, his eyes protuberant, but so everted as to conceal the pupil; dark purple appearance of the face and extremities. After continuing in a state of insensibility for some time, during which his breathing was deep and stertorous, and the urine and fæces were passed involuntarily, he slowly recovered. I was called upon to administer to him. After deliberating as to the nature of the disease, I was led to think it a disease of the heart, the nature of which I was not prepared to determine. I bled him, gave him a cathartic, and prescribed a state of quietude and abstinence. Recurrences of the paroxysms were frequent, and other aid was resorted to. Very different diagnoses were given by those who saw him at different times. Some pronounced it epilepsy, arising from a disordered state of the stomach and chylopoietic viscera, and treated him with emetics, cathartics, alteratives, nitras argenti, cupri ammoniureti, zinc. oxyd. &c. &c. Under this course the paroxysms became more frequent and alarming. Another declared it to arise from an excited state of the brain and nervous system, and administered stramonium, laurel water, and other sedatives, with no more benefit than the former. Another thought he discovered symptoms of tænia, and promised some curious old ladies who had never seen such creatures, that they should shortly be gratified with the sight of a whole brood. The male fern, essential oil of turpentine, and essential oil of the juniperus sabina, were to perform the miracle. But alas! they failed, much to the discontent of those who had been so credulous as to believe him.

He recurred again to the advice I had given him soon after he had been attacked, was bled frequently, paid the most rigorous attention to his diet, and kept himself as much as possible in a recumbent posture. Nevertheless the paroxysms continued, and gradually impaired his intellectual capacity, until at length he was nearly in a state of fatuity. He died in one of the paroxysms, on the morning of the 10th of March, 1830, without having been previously more unwell than usual. I was apprised of the event, and asked and obtained permission to examine the body.

Sectio Cadaveris, four hours after death, showed that a large quantity of blood had escaped into the thorax. The thoracic viscera were removed—lungs appeared healthy. The inferior and superior cava were very much enlarged, in some places thickened, in others attenuated so as to be nearly transparent. The right auricle had lost every trace of its corrugations, was of a dark-red appearance, with spots of a dark-brown colour, in some places dilated into sacs capable of containing the point of the finger, through the apex of one of which there was an opening three or four lines in diameter. Some flakes of coagulable lymph were on its external surface. The whole was very tender, tearing very readily. Its capacity was five or six times as much as that of the left side. The right ventricle was enlarged to twice its common capacity, its parietes thin and flabby, the columnæ carneæ were small, the mitral valves were so small as to be scarcely recognised. The coats of the pulmonary arteries appeared to be thickened, but the capacity of the vessels less. The left side of the heart appeared to be healthy. The coats of the aorta were very much thickened, although the capacity was less.

Most of the physicians who had seen the patient, were present during the examination, and united in the expression of their belief, that the heart had been the organ affected during his long illness. It had probably been the seat of a chronic inflammation, although the symptoms characterizing that complaint had been wanting. Whatever be the cause of the disease, it produced protracted and poignant suffering, without much chance of relief, even had it been well understood.

Hancock, Mass. June 17th, 1830.

Arsenic in Large Doses.—We have received a communication from R. Dakin, M. D. of Columbus, N. J. in which he states, that he has employed, at the suggestion of Dr. Budd, of Mount Holly, N. J. arsenic in large doses, as a remedy for intermittent fever, and with great success. He gives it in the form of pill, in doses of one-fourth of a grain, four times a day—in one case he says he gave as much as five grains in three days. He says that he has never seen any serious injury result from these large doses.

Account of a Man who lived on Water for fifty-four days.—This case is published in the first Volume of the Transactions of the Albany Institute, by James M'Naughton, M. D. Professor of Anatomy and Physiology in the University of the State of New York. The subject of the case, a young man aged twenty-seven, for three years immediately preceding his death, almost constantly kept his room, apparently engaged in meditation, a bible his only companion. At the latter end of May, 1829, his appetite began to fail; he ate very little; on the 2d of July he declined eating altogether, "assigning as a reason, that when it was the will of the Almighty that he should eat, he would be furnished with an appetite." For the first six weeks of his fast he went regularly to the well in the morning, washed himself, and took a bowlful of water with him into the house. With this he occasionally washed his mouth and drank a little—the quantity taken during the twenty-four hours did not exceed a pint. On one occasion he went three days without taking water—but on the fourth morning he was observed to go to the well and drink copiously and greedily. For the first six weeks he walked out every day, and sometimes spent a greater part of the day in the woods. He retained his strength until a short time before his death. During the first three weeks he emaciated rapidly, afterwards he did not seem to waste so sensibly.

"Professor Willoughby visited him a few days before he died. He found his skin very cold, the respiration feeble and slow, but otherwise natural; but the effluvia from the breath, and perhaps the skin, were extremely offensive. During the greater part of the latter weeks of his life, the parents say, that there was a considerable discharge of a foul, reddish matter, from the lungs. To this, perhaps, the offensive smell referred to, may be chiefly attributed. The pulse was regular, but slow and feeble, and what struck Professor Willoughby as most remarkable, was the diminished size of the radial artery. Owing to the emaciation it could be very distinctly felt. It seemed to be as small as a stout thread, and much firmer than natural."

His alvine evacuations were rare; it is believed that he passed several weeks without any—but the secretion of urine seemed more regular. He died after fasting fifty-three days. His body was examined by Dr. Johnson. The stomach was loose and flabby. The gall-bladder was distended with a dark, muddy-looking bile. The mesentery, stomach, and intestines, were excessively thin and transparent. There was no fat in the omentum. No further particulars are furnished us respecting the dissection of this case.

Endermic Medication.—Most of our readers are probably aware of its having been announced not long since by Dr. LEMBERT, that remedial articles when applied to the cutis denuded of epidermis, produce their peculiar effects with nearly the same energy as when introduced into the alimentary canal. The favourable reports of this mode of medication, made by Dr. Lembert, has induced many to try it: we have ourselves employed both tonics and narcotics in this way, in cases in which their administration by the mouth was inadmissible, and with very satisfactory results. An extensive and interesting series of experiments have been recently instituted in the Philadelphia Alms-house, by Dr. WILLIAM W. GERHARD, who has employed various tonics, narcotics, cathartics, diuretics, emetics, and also mercury and iodine; and in most instances their peculiar effects were observed to be produced. His experiments indeed fully confirm the favourable reports made by Dr. Lembert. It is perhaps unnecessary to say that the cuticle is raised by a blister, then removed, and the remedial substance applied in powder or mixed with cerate to the denuded cutis; or if fluid, it may be reduced to the consistence of an extract, and spread on a piece of fine linen, or compresses may be soaked in the solution and applied to the denuded part. The dose of the remedy is rather greater than when given in the usual way. The following are the conclusions to which Dr. Gerhard's experiments have led him.

"1. That medicines applied to various parts of the body externally, provided they be placed in direct contact with the vascular surface of the cutis, produce similar effects in doses but little larger than when they are made to act directly upon the gastric mucous membrane.

"2. All medicinal substances have a peculiar affinity for certain organs or tissues, which is entirely independent of their immediate action upon such parts.

"3. That violent irritants or escharotics rarely produce any general effect, although this sometimes occurs.

"4. All other articles of sufficient activity may be used, provided the cutis be not too highly inflamed; when the latter is the case, soothing applications are in the first place necessary, or no absorption will take place.

"5. The endermic medication is peculiarly useful in cases of extreme gastric irritability, and when it is important to modify morbid actions without impairing the integrity of a vital organ.—*N. A. Med. and Surg. Journ. April,* 1830.

Perturbating Treatment.—The free use of perturbating remedies is severely censured by M. Broussais and his school, and those who employ such articles are accused of killing their patients with them. This charge is certainly, at least in some instances, unjust. We find recorded in the last No. of the *New York Medical and Physical Journal,* a case in which the greater number of the most active articles that constitute the armament of the physician, were employed in *ad libitum doses*, and in an almost *incredibly short space* of time, a single night, and yet the patient recovered. This case is entitled "Poisoning from the bite of a spider *successfully treated*."(!) The patient *supposed* himself to have been bitten by a spider on the 10th of July, and late in the evening of the same day, when seen by the narrator of the case, "he complained of violent pain in his back and loins," "his spasms were extreme and occurred at short intervals; the pulse was small, frequent, and labouring or irregular; the pupils dilated; skin covered with a profuse cold sweat; the urine suppressed; muscular power totally suspended, and the intellectual energies much impaired," &c.

The patient had been already dosed with various remedies, "such as the popular prescriptions in common use for the bites of venomous reptiles, viz. plantain, horehound, boneset, edgeweed, rue, tansey, squirrill's ear, wormwood, milk, oil, spirit, vinegar, and a *farrago* of *other* ineffectual remedies. He had been bled, and a *variety* of topical applications employed, but all to no purpose."

On his arrival, the doctor set immediately to work; he prescribed, we quote his own words, "large opiates, *anodynes*, antispasmodics, and stimulants, both diffusible and permanent; among these were volatile alkali, æther, opium, camphor, amber, compd. tinct. castor, lavender, brandy, cantharides, arsenic, and a *host of others without effect. Large doses* of calomel and opium were given, but the bowels were not in a situation to be excited by cathartics while the spasms continued. As no remedy appeared to have the desired effect, although prescribed *ad libitum*, I was necessarily compelled to relinquish most of them, and trust solely to opium and ammonia, as the only medicines that were likely, in the event, to ensure a successful issue." "By pursuing this course through the night," says Dr. H. "*I ultimately succeeded in relieving all symptoms!*" "Much, however," he adds, "might be attributed to the spirit of turpentine, for it was not until this was employed that the disease seemed to yield." It is almost unnecessary to add that the patient's convalescence was a slow one.

What will M. Broussais say to this case? If the patient had died, his death would have been attributed to the remedies—he recovered, and so unjust is the world, that we doubt whether the credit of the cure will be awarded to his physician!

Case of Imperforate Hymen.—This occurred in a woman aged twenty, who had been married two years; she had never menstruated. When Dr. J. W. Horton, who relates the case, was sent for, he found a hard tumour occupying the umbilical region, larger than a man's hand. The abdomen was considerably distended, and fluctuation was perceptible on percussion. She had excruciating pains, and rest could only be procured by opiates. Further examination showed a tumour below the pelvis, and projecting at the os externum. This tumour proved to be an imperforate hymen, it was divided with a scalpel, and eight pounds of dark grumous fluid evacuated. Immediate relief was obtained, and the woman has since become pregnant. It is curious, that neither husband nor wife had any suspicion of the nature of this case—they had lived together in perfect amity.—*Baltimore Medical Recorder, April*, 1830.

Prize Essay.—The Medical and Chirurgical Faculty of Maryland, offer a premium of one hundred dollars for "An Essay upon the Nature and Sources of Malaria or Noxious Miasma, from which originate the family of diseases usually known by the denomination of Bilious Diseases; together with the best means of preventing the formation of Malaria, removing the sources, and obviating their effects upon the human constitution when the cause cannot be removed."

The dissertations must be delivered to Dr. Henry W. Baxley, Corresponding Secretary, Baltimore, on or before the 1st of May, 1831. "Each dissertation to be accompanied with a sealed letter, superscribed with a motto corresponding with that prefixed to the essay."

Return of Deaths within the City of Charleston, from the 1st of January 1829, to the 1st of January, 1830.

DISEASES.	Under 3 years.	3 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	TOTAL.
Abscess	0	1	0	1	0	0	1	0	0	0	0	3
Accident	0	0	0	1	1	3	1	0	0	0	0	6
Apoplexy	0	0	0	3	6	7	5	4	0	1	0	26
Asthma	1	0	0	0	1	1	2	2	0	0	0	7
Burn	0	0	0	0	0	1	0	1	0	0	0	2
Cancer	0	0	0	0	1	1	0	0	0	0	0	2
Catarrh	10	2	3	0	1	1	1	3	0	1	0	22
Cholera Morbus	0	0	1	1	0	0	0	0	0	0	0	2
Colic	1	0	0	0	0	0	0	0	0	0	0	1
Colic, Bilious	0	0	1	0	1	0	2	0	0	0	0	4
Childbed	0	0	2	2	1	0	0	0	0	0	0	5
Consumption	4	4	16	26	24	13	21	2	2	0	0	112
Convulsions	31	0	0	4	6	2	4	1	0	0	0	48
Cramp	1	0	0	0	1	0	0	0	0	1	0	3
Cramp in the Stomach	2	1	0	0	1	3	0	1	0	0	0	8
Croup	5	1	0	0	0	0	0	0	0	0	0	6
Debility	7	1	1	4	6	5	7	2	5	0	0	38
Decline	0	1	0	1	0	0	0	0	0	0	0	2
Diarrhœa	41	2	1	1	1	3	0	0	0	0	0	49
Disease of the Bladder	0	0	0	0	0	0	0	0	1	0	0	1
Disease of the Heart	0	0	0	0	0	0	1	0	0	0	0	1
Dropsy	4	2	4	2	14	15	9	8	0	1	0	59
Dropsy of the Head	2	1	0	0	0	0	0	0	0	0	0	3
Dropsy of the Chest	0	0	0	0	2	1	1	2	0	0	0	6
Drowned	1	0	1	0	1	1	0	0	0	0	0	4
Dyspepsia	0	0	0	0	0	0	0	0	1	0	0	1
Dysentery	4	2	0	4	1	0	0	3	1	0	0	15
Effects of Dengue	2	0	0	0	2	1	2	0	0	0	0	7
Effects of Laudanum	0	0	0	1	0	0	0	0	0	0	0	1
Epilepsy	0	0	0	2	0	0	0	0	0	0	0	2
Fever, Bilious	1	1	0	2	3	0	1	1	0	0	0	9
Fever, Country	0	0	1	2	0	1	0	1	0	0	0	5
Fever, Nervous	0	0	0	0	0	0	1	0	0	0	0	1
Fever, Remittent	1	0	1	1	0	0	0	0	0	0	0	3
Fever, Typhus	2	0	4	0	1	1	0	0	0	0	0	8
Fever, Worm	9	3	1	0	0	0	0	0	0	0	0	13
Gout in the Stomach	0	0	0	0	0	0	0	1	0	0	0	1
Hæmorrhage	0	0	0	1	0	1	0	0	0	0	0	2
Hernia, Strangulated	0	0	0	0	0	0	0	2	0	0	0	2
Hooping Cough	6	1	0	0	0	0	0	0	0	0	0	7
Inflammation of the Brain	3	1	2	2	1	1	0	1	1	0	0	12
Inflammation of the Bowels	3	0	3	0	0	0	0	2	0	0	0	8
Inflammation of the Glands of the Neck	0	0	0	0	1	0	0	0	0	0	0	1
Inflammation of the Lungs	1	0	0	1	0	0	0	0	0	0	0	2
Inflammation of the Kidneys	0	0	0	0	0	0	0	0	1	0	0	1
Inflammation of the Spleen	0	0	0	1	0	0	0	0	0	0	0	1
Inflammation of the Stomach	1	3	0	0	0	0	0	0	0	0	0	4
Intemperance	0	0	0	3	10	6	0	0	0	0	0	19
Jaundice	0	0	0	1	1	0	0	0	0	0	0	2
Carried over	143	27	42	67	88	68	59	37	12	4	0	547

DISEASES.	Under 3 years.	3 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	TOTAL.
Brought over	143	27	42	67	88	68	59	37	12	4	0	547
Leprosy	0	0	0	0	0	1	0	0	0	0	0	1
Liver Complaint	0	1	0	2	2	7	0	0	0	0	0	12
Locked Jaw	23	0	0	1	1	0	0	0	0	0	0	25
Mania	0	0	0	0	0	1	0	0	0	0	0	1
Marasmus	0	0	0	0	0	1	0	0	0	0	0	1
Measles	11	4	1	0	0	0	0	0	0	0	0	16
Mortification	1	0	0	0	0	0	1	0	0	0	0	2
Nervous Affection	0	0	0	1	0	0	0	0	0	0	0	1
Not Known	0	0	0	0	1	1	0	1	0	0	0	3
Old Age	0	0	0	0	0	0	1	0	26	21	6	62
Palsy	0	0	0	0	1	1	4	6	0	0	0	12
Peripneumony	0	0	0	0	0	0	1	0	0	0	0	1
Pleurisy	0	0	0	0	1	1	0	0	0	0	0	2
Rheumatism	0	0	0	1	1	1	1	1	0	0	0	5
Rupture of Cerebellum	0	0	0	0	1	0	0	0	0	0	0	1
Spasm	1	0	3	0	2	1	1	1	0	0	0	9
Spitting of Blood	0	0	0	0	0	1	0	1	0	0	0	1
Suicide	0	0	0	0	1	0	0	0	0	0	0	1
Scrofula	0	2	1	0	0	0	0	0	0	0	0	3
Sore Throat	3	3	0	0	1	0	0	0	0	0	0	7
Suppressio Mensium	0	1	0	0	0	0	0	0	0	0	0	1
Teething	36	0	0	0	0	0	0	0	0	0	0	36
Thrush	8	0	0	0	0	0	0	0	0	0	0	8
Ulcer	0	0	0	0	1	0	2	0	0	0	0	3
Vomiting of Blood	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL	226	39	47	72	101	85	71	52	38	25	6	762

White Males	183	Black Males	205
White Females	124	Black Females	250
Total	307	Total	455

Of the Whites, there were—Natives of this State, 205; of different parts of the United States, 42; Foreigners, 60—307.

Of the whole number, were—Residents of the city, 730; non-residents 32—762. Proportion of deaths to the population of the city, according to the last census, (1824,) about one out of every 36 1-2 of the whole population—one out of every 40 1-4 of the White, and one out of every 33 7-16 of the Coloured population.

By Order of the Board,
JOHN BELLINGER, M. D. *Clerk.*

Summary of the Thermometer, Weather, and Disease, from the 1*st of January,* 1829, *to the* 1*st of January,* 1830.

January.—*The Thermometer*—ranged from 30 to 69 deg. Fahrenheit.—*Winds*—N. 8 days; N. E. 7; E. 8; S. E. 5; S. 7; S. W. 12; W. 9; N. W. 12.—*Quantity of Rain*—which fell during this month, 4 75-100 inches, 7 rainy days.—*Diseases*—which were particularly prevalent in this month were Catarrhal Affections, Dengue Pains, Rheumatism, Sore Throat.

February.—*The Thermometer*—ranged from 28 to 68 deg.—*Winds*—N. 11

days; N. E. 11; E. 6; S. E. 4; S. 3; S. W. 10; W. 11; N. W. 15.—*Quantity of Rain*—6 40-100 inches, 12 rainy days.—*Diseases*—Catarrhal Affections, Pleurisy, Pneumonia, Rheumatism, Sore Throat.

March.—*The Thermometer*—ranged 36 to 69 deg.—*Winds*—N. 5 days; N. E. 7; E. 7; S. E. 13; S. 8; S. W. 13; W. 10; N. W. 12.—*Quantity of Rain*—5 98-100 inches, 8 rainy days.—*Diseases* of this month have not been satisfactorily ascertained.

April.—*The Thermometer*—ranged from 48 to 78 deg.—*Winds*—N. 7 days, N. E. 1; E. 3; S. E. 6; S. 9; S. W. 18; W. 13; N. W. 6.—*Quantity of Rain*—1 15-100 inches, 3 rainy days.—*Diseases*—Catarrhal Affections, Chicken Pox, Cholera Infantum, Effects of Dengue, Measles, Sore Throat.

May.—*The Thermometer*—ranged from 56 to 83 deg.—*Winds*—N. 1 day; N. E. 10; E. 12; S. E. 16; S. 9; S. W. 12; W. 3; N. W. 3.—*Quantity of Rain*—4 10-100 inches, 13 rainy days.—*Diseases*—Intermittent Fever, Measles, Rheumatism, Typhus Pneumonia.

June.—*The Thermometer*—ranged from 72 to 92 deg.—*Winds*—N. 4 days; N. E. 6; E. 9; S. E. 13; S. 8; S. W. 13; W. 8; N. W. 2.—*Quantity of Rain*—6 97-100 inches, 13 rainy days.—*Diseases*—Bilious Cholera, Dengue Pains, Measles, Hooping Cough.

July.—*The Thermometer*—ranged from 68 to 90 deg.—*Winds*—N. 2 days: N. E. 3; E. 6; S. E. 8; S. 9; S. W. 21; W. 11; N. W. 2.—*Quantity of Rain*—6 25-100 inches, 16 rainy days.—*Diseases*—Bilious Fever, Cholera Infantum, Diarrhœa, Dysentery, Measles, Partial Dengue.

August.—*The Thermometer*—ranged from 74 to 88 deg.—*Winds*—N. 3 days; N. E. 7; E. 8; S. E. 6; S. 10; S. W. 17; W. 9; N. W. 1.—*Quantity of Rain*—9 3-100 inches, 17 rainy days.—*Diseases*—Catarrh, Country Fever 1 case, Dysentery, Sore Throat, Yellow Fever 1 case, originating in a child 5 years old, and 1 case, (in the Marine Hospital,) imported.

September.—*The Thermometer*—ranged from 63 to 87 deg.—*Winds*—N. 3 days; N. E. 15; E. 6; S. E. 5; S. 6; S. W. 10; W. 5; N. W. 3.—*Quantity of Rain*—1 12-100 inches, 6 rainy days.—*Diseases*—Catarrh, Cholera Infantum, Croup, Diarrhœa, Measles, Remittent Fever of Children, Sore Throat.

October.—*The Thermometer*—ranged from 55 to 80 deg.—*Winds*—N. 14 days; N. E. 19; E. 4; S. E. 4; S. 1; S. W. 6; W. 4; N. W. 4.—*Quantity of Rain*—20-100 of an inch, 5 rainy days.—*Diseases*—Catarrhal Affections, Nervous Fever.

November.—*The Thermometer*—ranged from 32 to 70 deg.—*Winds*—N. 2 days; N. E. 11; E. 4; S. E. 6; S. 4; S. W. 11; W. 10; N. W. 13.—*Quantity of Rain*—45-100 of an inch, 1 rainy day.—*Diseases*—Catarrhal Affections, Measles.

December.—*The Thermometer*—ranged from 35 to 75 deg.—*Winds*—N. 0. N. E. 13; E. 6; S. E. 13; S. 0; S. W. 6; W. 2; N. W. 4.—*Quantity of Rain*—4 15-100 inches, 12 rainy days.—*Diseases*—Catarrhal Affections, Measles.

TOTAL.—*Range of the Thermometer*—from 28 to 92 deg.—*Quantity of Rain*—50 55-100 inches, 113 rainy days.—*Winds*—N. 60 days; N. E. 110; E. 79; S. E. 99; S. 74; S. W. 149; W. 95; N. W. 77.

By Order of the Board,
JOHN BELLINGER, M. D. *Clerk.*

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Institutes and Practice of Medicine - - - - -	By NATHANIEL CHAPMAN, M. D. SAMUEL JACKSON, M. D.
Materia Medica and Pharmacy	By JOHN REDMAN COXE, M. D.
Chemistry - - - -	By ROBERT HARE, M. D.
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Philadelphia, July, 1830.

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Since that time, its success has been regularly progressive—the number of its students during the session 1827–8, having been 105, during that of 1828–9, 113, and during that just past, 123.

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◆

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Surgery - - -	By JAMES RAMSAY, M. D.
Institutes and Practice of Physic - - -	By S. HENRY DICKSON, M. D.
Materia Medica -	By HENRY R. FROST, M. D.
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